

**Studies in General and Oriental Linguistics**

**Presented to Shirô Hattori**









# **Studies in General and Oriental Linguistics**

**Presented to Shirô Hattori  
on the Occasion of  
His Sixtieth Birthday**

**Edited by Roman Jakobson  
and Shigeo Kawamoto**

**1970**

**TEC Company, Ltd.**

**TEC Corporation for Language and Educational Research  
Tokyo, Japan**

© 1969 by TEC Company, Ltd.

All rights reserved. No part of this publication may be reproduced or translated without permission in writing from the publisher.

Standard Book Number 87774-500-5

United States Library of Congress Catalog Card  
Number 78-110679

Published March 1970.

Published by TEC Company, Ltd.

Shibuya Tokyu Bldg., 6th F. 2-2, 1-chome Dogenzaka,  
Shibuya-ku, Tokyo, Japan. 150

Distributed outside of Japan by Schoenhof's Foreign Books, Inc.  
Cambridge, Mass., U.S.A. 02138

Printed and Bound in Japan.

## TABLE OF CONTENTS

SHIRÔ HATTORI: A Short Biography.....	XI
A Bibliography of Books and Articles by SHIRÔ HATTORI.....	XIV
ROBERT AUSTERLITZ	
Agglutination in Northern Eurasia in Perspective .....	1
ÉMILE BENVENISTE	
Définition d'un parfait en paléo-sibérien oriental .....	6
KNUT BERGSLAND	
An Aspect of Subordination in Aleut .....	10
ERIC BUYSENS	
The Common Name and the Proper Name .....	21
DENZEL CARR	
The Semiregularization of English Spelling .....	24
Y. R. CHAO	
Interlingual and Interdialectal Borrowings in Chinese .....	39
NOAM CHOMSKY	
Deep Structure, Surface Structure, and Semantic Interpretation .....	52
BJÖRN COLLINDER	
Über sprachwissenschaftliche Feldarbeit .....	92
HENRI FREI	
L'interrogation partielle et la distinction noyau-satellite .....	103
OSAMU FUJIMURA	
Current Issues in Experimental Phonetics .....	109

<b>A. v. GABAIN</b>	
Primäre und sekundäre Kasus im Alttürkischen .....	131
<b>THOMAS V. GAMKRELIDZE</b>	
"Anatolian Languages" and the Problem of Indo-European Migration to Asia Minor .....	138
<b>HELMUT GIPPER</b>	
Inhaltlich orientierte Sprachwissenschaft im Dienste der Völkerverständigung .....	144
<b>CHARLES HAGUENAUER</b>	
Réflexions préalables à une étude de la fonction et de la nature de la particule enclitique <i>-wo</i> .....	157
<b>MORRIS HALLE</b>	
A Note on the Accentual Patterns of the Russian Nominal Declension .....	167
<b>LOUIS HAMBIS</b>	
A Propos des noms de trois clans des Ordos .....	175
<b>L. L. HAMMERICH</b>	
Einige Jahrhunderte europäischen Kulturerbes .....	180
<b>ERIC P. HAMP</b>	
On the Altaic Numerals .....	188
<b>KINSUKE HASEGAWA</b>	
An Aspect of English Question Formation .....	198
<b>MANTARO J. HASHIMOTO</b>	
Notes on Mandarin Phonology .....	207
<b>EINAR HAUGEN</b>	
On the Meaning of Bilingual Competence .....	221
<b>WALTHER HEISSIG</b>	
On a Preclassical Mongolian Prayer from Olon Süme .....	230
<b>ARCHIBALD A. HILL</b>	
Towards a Parsing Procedure for Simple Sentences in English .....	235

KAZUKO INOUE	
"Case" from a New Point of View .....	246
MILKA IVIĆ	
On the Part-Whole Relation and its Linguistic Consequences .....	281
PAVLE IVIĆ	
Prosodic Possibilities in Phonology and Morphology .....	287
ROMAN JAKOBSON	
Subliminal Verbal Patterning in Poetry .....	302
SHIGEO KAWAMOTO	
Charles Bally's <i>Modus</i> and Generative Grammar .....	309
A. A. KHOLODOVIČ	
К вопросу о доминанте предложения .....	318
TETSUYA KUNIHIRO	
A Contrastive Study of Vocabulary—With Special Reference to English and Japanese .....	325
SUSUMU KUNO	
Some Properties of Non-Referential Noun Phrases .....	348
HANS KURATH	
The Sociocultural Interpretation of Dialect Areas .....	374
S.-Y. KURODA	
Some Remarks on English Manner Adverbials .....	378
YU. K. LEKOMCEV	
Towards a Differentiation Theory for Linguistics .....	397
GIULIO C. LEPSCHY	
Simultaneity in Speech and Writing .....	410
FANG KUEI LI	
Some Tonal Irregularities in the Tai Languages .....	415

<b>SHADABYN LUBSANVANDAN</b>	
Remarks on Some Roots and Stems in Modern Mongolian .....	423
<b>BERTIL MALMBERG</b>	
Phonemes — Form Versus Substance .....	426
<b>SAMUEL E. MARTIN</b>	
Junctural Cues to Ellipsis in Japanese .....	429
<b>ANDRÉ MARTINET</b>	
Verbs as Function Markers .....	447
<b>TSU-LIN MEI AND JERRY NORMAN</b>	
The Numeral 'Six' in Old Chinese .....	451
<b>KARL H. MENGES</b>	
Etymologica .....	458
<b>FUJIO MINAMI</b>	
On the Meaning of Sentences in Modern Japanese .....	467
<b>NICHOLAS POPPE</b>	
On Some Honorific Expressions in Mongolian .....	484
<b>RINTCHEN</b>	
A propos d'une pièce de chancellerie bouriate du xix siècle .....	500
<b>A. ROSETTI</b>	
Sur la diphtongaison des voyelles <i>e</i> et <i>o</i> en roumain .....	505
<b>G. D. SANŽEEV</b>	
Заметки по тюркско = монгольскому вокализму .....	508
<b>TAKESI SIBATA</b>	
Korean Sibling Terms and their Structure .....	516
<b>BERTHE SIERTSEMA</b>	
Morphemic Make-Up and World View (Does the Morphemic Make-Up of a Language Reflect the World View of its Speakers? New Material to Answer an Old Question) .....	525



## WALTER SIMON

- Some Suggestions towards a Romanisation of Modern Tibetan  
(Lhasa Dialect) .....535

## DENIS SINOR

- Two Altaic Etymologies .....540

## V. M. SOLNCEV

- Morpheme and Word in Chinese (The Structure of the Morphological Level)...545

## TAKAO SUZUKI

- An Essay on the Anthropomorphic Norm .....552

## N. A. SYROM'ATNIKOV

- Теории изосемантических рядов и родственных корней  
как необходимые методы для этимологии японского языка .....557

## S. K. ŠAUMJAN

- Semantics in Generative Grammars .....572

## SUZUKO TAMURA

- Personal Affixes in the Saru Dialect of Ainu .....577

## AHMET TEMİR

- Die alten Quellen der Kazan- und Nord-Türkischen Literatur  
(bis zum xix. Jahrhundert) .....612

## B. KH. TODAEVA

- Заметки по языку Хайяньских (Куку-норских) монголов .....627

## V. N. TOPOROV

- About the Phonological Typology of Burushaski .....632

## E. M. UHLENBECK

- Position and Syntactic Function of the Particle *ta* in Old Javanese .....648

## CHANG KYUN YU

- The Systems and Characteristics of Modern Sino-Korean Pronunciations .....659

## YASUTOSHI YUKAWA

- Remarks on Meaning .....680



Town and castle of Kameyama.  
Wood-block print by HIROSHIGE ANDŌ (1797–1858), published 1833.

## SHIRÔ HATTORI

### A SHORT BIOGRAPHY

Shirô Hattori was born on May 29, 1908 in the city of Kameyama, which is located in the northern part of Mie Prefecture, central Japan (approximately fifty miles by train from Kyoto). Kameyama at that time was a rural community with a population of twelve thousand, where not only foreign languages, but even the Tokyo or other dialects of Japanese were never heard.

In April 1915, he entered the primary school of Kameyama and graduated from it in March 1921. The only event during this time, which had some connection with linguistics, was that, in or prior to the third year, he taught himself the "Hepburn" system of Romanized transliteration of Japanese. The neighbors who did not discriminate the Roman letters from English asked him to read for them the English on cans and other things, so he asked his brothers, who were university students, to give him some self-learning manuals of English. But they prohibited him from self-study until his entrance into the middle school, on the ground that he might get accustomed to wrong pronunciation and grammar. This caused him not a little frustration. As a primary school student he also found great pleasure in reading folk tales of various tribal groups and nations.

In April 1921, he entered Kenritsu Tsu Chûgakkô (the Prefectural Middle School of the City of Tsu). Tsu is the capital of the prefecture and lies twelve miles south of Kameyama. The dialects of both cities are very similar to each other (both dialects are close to that of Kyoto, and very different from that of Tokyo), but more than half of the teachers were from other districts of Japan. In the first and second years he became fascinated with the structure of English as taught by an excellent teacher, Mr. Takaji Takano, whose speech in the Tokyo dialect also interested him very much. Also during this time he happened to come across a couple of novels by the famous writer, Sôseki Natsume, and became so impressed that he went on to read through the "Complete Works" in fourteen volumes.

After finishing the fourth year of middle school in March 1925, he entered Dai-ichi Kôtô Gakkô (The First Higher School), the present-day Preparatory Course (Komaba Campus) of the University of Tokyo, and suddenly found himself in a situation where the larger part of his classmates were from all over Japan, and did not hesitate to speak

in their own dialects. At first he intended to become a specialist in English literature, partly under the influence of Natsume, but he soon switched to Japanese literature, because he perceived that there was no particular reason for him as a Japanese to choose as his speciality English literature from among the literatures of various nations in the world. However, it did not take him long to realize that he was unfit to study literature in the manner prevalent in Japan. Although he had a very strong interest in language, he did not know that there was such a science as linguistics, which was not popular in Japan at that time. So he spent not a short time searching for a discipline which would suit him in the fields of humanities and social sciences. Finally in his senior year of this school he became interested in the still unsolved problem of the genealogy of Japanese, and began to study linguistics and phonetics.

In April 1928, he entered Tokyo Imperial University (now the University of Tokyo) and graduated from the Department of Linguistics in March 1931. As an undergraduate he studied Korean, Mongol, Turkish, Ainu, and Chinese in addition to general and Indo-European linguistics, and took a great interest in Japanese linguistics. He had the famous linguist, Hideyo Arisaka, as a classmate.

In April 1931, he became an Assistant in the Department of Linguistics and at the same time entered the Graduate School.

Hereafter, only his international activities will be mentioned, except for the appointments at Tokyo Imperial University.

In June 1933, he was awarded a scholarship for the study of Oriental languages from the Nippon Gakujutsu Shinkō Kai (Japan Society for the Promotion of Science), and went to Manchuria in October of the same year. He stayed in North Manchuria, especially in Khulunbuir (Barga), studying various Altaic languages until February 1936. As he always lived among the native population, his experiences during this period were invaluable, in that they deepened his understanding of the nature of language and culture.

In April 1936, he became Lecturer in the Department of Linguistics in his Alma Mater, and taught Mongol and General Phonetics.

In the summer of 1940, he was invited by the Ministry of Mongolian Affairs of Manchukuo to give advice on the questions of investigation and preservation of Mongolian documents. On this occasion he traveled in Chi-lin Province searching for spoken Manchu.

In June 1942, he was appointed Associate Professor of Linguistics at Tokyo Imperial University.

In June and July of the same year, he was invited by the University of Peking to give lectures on Linguistics and Phonetics.

In March 1943, he was put in charge of the Chair of Linguistics at Tokyo Imperial University, and in May of the same year, received the degree of Bungaku Hakushi (Litt. D.).

In May 1949, he was appointed Professor in charge of the Chair of Linguistics at the

University of Tokyo.

In May 1950, he became Visiting Associate Professor in the Department of Far Eastern Languages and Literatures, the University of Michigan, and taught Japanese and the Altaic languages for one year and three months.

In November 1951, he became a Fellow-by-Courtesy at Johns Hopkins University and studied the language of Dilowa Gegen Hutukhtu, a living Buddha from Outer Mongolia, for half a year. On the way home, he visited England and France, and left Marseilles on a French ship, which arrived in Japan in July 1952 after calling at Port Said, Djibouti, Colombo, Singapore, Saigon, Manila and Hong Kong.

In the summer and autumn of 1961, he traveled in Afghanistan for three months and made an investigation into Moghol in the neighborhood of Herat. He found that the language was very similar to that described by G. J. Ramstedt, but its phonology and syntax were almost Persian. It was on the point of becoming extinct, surviving perhaps as a kind of secret language. He also learned from these Moghols that there existed a Moghol dialect in Durudi which was quite incomprehensible even to them. He attempted to visit the village, but certain circumstances impeded him from doing so. He also traveled by bus from Kabul to Qunduz crossing the Hindu Kush Mountains in order to investigate Uzbeg. This time he traveled in Pakistan and India, on his way home. In Pakistan he was able to ascertain that the Kazakhs who had for ten years been north of Abbotabad had wrongly been reported as Mongols.

In May 1962, he was invited to participate in the PIAC Conference of Altaists at Indiana University, and in August of the same year, he was invited to participate as chairman of the Section Meeting of Structural Semantics at the Ninth International Conference of Linguists in Cambridge, Massachusetts. After the conference he spent the remainder of the year visiting various universities in America, England, France, Belgium, Holland, Germany and Turkey.

In March 1964, he was elected Türk Kültürünü Araştırma Enstitüsünün Haberleşme Üyesi (Correspondent Member of the Institute for the Research of the Turkish Culture).

In June 1967, he was invited to participate in the International Seminar on Bilingualism which was held in Moncton, Canada.

In August of the same year, he was elected a member of the Executive Committee of the Permanent International Committee of Linguists.

And in November, he was invited to Korea by the Korean Government, and visited Seoul, Cheju Island, Taegu, etc., making some investigation into these dialects.

In February 1968, he was elected Honorary Member of the Linguistic Society of India.

In March 1969, he retired from the University of Tokyo under the compulsory retirement age limit.

In May, he received the title of Professor Emeritus from the University of Tokyo.

## A BIBLIOGRAPHY OF BOOKS AND ARTICLES BY SHIRÔ HATTORI

Essays and some other writings are excluded.

Numbers marked with an asterisk refer to books or pamphlets.

Numbers in parentheses indicate books in which the article has been reprinted.

### 1928

1. Disyllabic Words of the Kameyama Dialect in Mie Prefecture (BULLETIN OF THE PHONETIC SOCIETY OF JAPAN (hereafter, BULLETIN OF PSJ), No. 11, p. 11 [Nov. 1928]; No. 13, p. 11 [March 1929]; No. 14, pp. 6~7 [May]; Nos. 17/18, p. 5 [April 1930]).

It reports for the first time that a Kinki (Kansai) dialect, the author's native dialect, has 4 kinds of prosodeme (accent-pattern) for disyllabic words, and that the second syllable has a sharp falling tone when [i] or [u] of the first syllable with the accent-kernel is devocalized. It also deals with the rules of prosodemic correspondence between Kameyama and Tokyo.

### 1929

2. [u] of Tokyo and [u] of Mie Prefecture (BULLETIN OF PSJ, No. 16, pp. 6~7 [Dec.]).  
It describes the articulatory and acoustic differences among various [u] of the Tokyo dialect, the Mie dialect, German, Chinese, and Korean.

### 1930

3. Syllable-final "-n" (*Study of Sounds*, Vol. 3, pp. 41~47 [March]).  
Japanese "-n" /N/ corresponds not only to [-m] [-n] [-ŋ], but also various nasals and nasalized vowels. All of these allophones are *décroissants* and tend to be gliding.
4. The Boundary between the Kinki Accent and the Eastern Accent (ibid., pp. 131~144).

The discovery of a clear-cut boundary between the areas of the accent of the Kyoto type and that of the Tokyo type.

### 1931

5. The Pronunciation of the Kōchi Dialect (BULLETIN OF PSJ, No. 23, pp. 6~7 (~3) [June]).

Regular nasalization of vowels preceding [d] and [g], which coincides with Rodriguez' description of Japanese in 1604.

6. A Survey of the Accents of Various Dialects of Japanese (HÖGEN, Vol. 1, No. 1, pp. 11~33 [Sept.]; No. 3, pp. 14~24 [Nov.]; No. 4, pp. 11~27 [Dec.]; Vol. 2, No. 2, pp. 1~12 [Feb. 1932]; No. 4, pp. 18~26 [April]; Vol. 3, No. 6, pp. 5~18 [June 1933]).

Descriptive and comparative studies of the accents of the following dialects: Tokyo (and the other eastern dialects), Kameyama (and Kinki), San'yōdo, Shikoku, Sendai, Kagoshima, and the Ryukyus.

7. The Accent Boundary and Investigations in Accent (*Study of Sounds*, Vol. 4, pp. 79~87 [Dec.]).

It is probable that the accent boundary reflects the ancient dialect boundary and that the dialects of Nagoya, Okazaki, Toyohashi, etc., are westernized eastern dialects.

### 1932

8. Sounds; Phonetics; Phonetic Alphabets and Symbols (Heibonsha: *Great Encyclopedia*, Vol. 4, March, pp. 304~5; pp. 305~6; pp. 306~8).

It is stated that clicks are sounds produced by the back of the tongue as the initiator of the ingressive air-stream, without the participation of the lungs.

9. Review of Kanae Sakuma: *General Phonetics; Pronunciation and Vocalization* (HÖGEN, Vol. 7, No. 5, pp. 71~76 [May]).

10. Sound Laws between "Ryukyuan" and Japanese (HÖGEN, Vol. 2, No. 7, pp. 1~16 [July]; No. 8, pp. 8~31 [Aug.]; No. 10, pp. 8~23 [Oct.]; No. 12, pp. 21~35 [Dec.]).

It expounds the importance of "sound law" as a working hypothesis, and tries to explain diachronically the deviating conjugational forms of the verbs and adjectives of Ryukyuan.

### 1933

11. Review of "Studies of Accent" in TSUCHI NO KA, No. 42 (TSUCHI NO KA, Vol. 8, No. 3, pp. 29~34 [Jan.]).
12. On the Problem of Dialect Boundaries (TSUCHI NO KA, Five-Year Commemorative Issue, pp. 19~28 [May]).
- 13.\* *Accent and Dialect* (in *Lectures on the Sciences of the Japanese Language*, Vol. 7: *Japanese Dialectology*, Meiji Shoin, [Aug.]), 74 pp.

It consists of five chapters: 1) What is accent? 2) Accent and emphasis; 3) Descriptive study of the accent of one dialect; 4) Comparative study of the accents of various dialects; 5) Some results of the study in the accent of

Japanese.

### 1935

14. Causative Forms and Passivo-Potential Forms of Korean Verbs (*Collection of Articles in Commemoration of Professor Katsuji Fujioka*, Iwanami Shoten, Dec., pp. 423~446).

The author found an opposition of accent [po<sub>1</sub>inda] «to let see»: [po<sub>2</sub>in<sub>1</sub>da] «to be seen» in the dialect of Yangsan in the south. Trying to investigate the geographical distribution, he found that the central and northern dialects have no opposition of accent.

### 1936

15. The Altaic Peoples in Khulunbuir (JINRIGAKU ZASSHI, Vol. 51, No. 7, pp. 308~9 [July]).
16. The Sounds of the Languages in Manchuria and Mongolia (BULLETIN OF PSJ, No. 43, pp. 8~11 [Aug.]).

It describes the sounds of Russian, Manchu, Mongol, Dagur, Tatar, and Chinese.

17. On Descriptive Studies of Foreign Languages (HÖGEN, Vol. 6, No. 9, pp. 1~28 (54) [Sept.]).

Descriptive studies of foreign languages should not be conducted on the basis of one's own mother tongue. They have their own structures in all aspects—phonetics, grammar, and semantics—which are often very different from those familiar to the investigator.

18. Review of Jūichi Obata and Takehiko Toshima: An Acoustic Study of Mongol (BULLETIN OF PSJ, No. 44, pp. 13~15 [Nov.]).

The reviewer found that two of the three informants were Dagurs and the other one was a Khūchin Barga, and emphasizes the point that the vowel system of Dagur is very different from those of the Mongol dialects in Khulunbuir.

### 1937

19. On the Intonation of Words in Russian (*Study of Sounds*, Vol. 6, pp. 91~93, with a summary in Russian, pp. 94~95 [Jan.]).

The intonation of autonomous (not synnomous) words is very different in the final and the non-final positions of a sentence. The stressed syllable is low and the preceding part is high when final, whereas the former is high and the latter is low when non-final.

20. On the So-Called "Yakuts" in the Northern Parts of the Great Hingan Range of Mountains (ibid., pp. 97~113).

The so-called "Yakuts" there are a Tungusic people who call themselves



Evenki.

21. Material for the History of Sounds of Manchu (ibid., pp. 279~294).

The author met in the city of Manchuli a Manchu who had come from Ili (cf. 134). He presents here the records of readings of the Manchu syllabary by this Manchu, two Mongols, a Dagur, and a Solon.

22. Some Taboos among Sine-Barga Mongols (KOTOBA, Vol. 7, No. 3, pp. 4~12 (54) [March]).

The author records some Mongol taboos and points out the psychological similarity between the Mongols and the Japanese.

23. The Mongol Dialects in Khulunbuir (*Mōkogaku*, Vol. 1, pp. 97~111 [April]).

- (54) A summary of an investigation into the geographical distribution of six Mongol dialects: Buryat (Aga and Khorī), Khūchin Barga, Sine Barga, Khalkha, Ōlōt, and Dagur.

24. On the Origin of the Transcription of the Round Vowels in Mongol (BULLETIN OF PSJ, No. 47, pp. 5~7 [June]).

The author supposes that the Roman letters *u*, *ü*, *o*, *ō* in the transliteration of Script Mongol were chosen on the basis of the Kalmuck pronunciation.

25. The Accent of Disyllabic Nouns in Proto-Japanese (HÖGEN, Vol. 7, No. 6, pp. 44~58 [July]).

A trial reconstruction of Proto-Japanese accent on the basis of newly found rules of correspondence.

26. Remarks on Ryukyuan (HÖGEN, Vol. 7, No. 10, pp. 1~22 [Dec.]).

- (158) A review of two papers concerning the Ryukyuan dialects.

#### 1938

27. On the Bulletin of the Turkish Society of History (Türk Tarih Kurumu) (KŌKOGAKU ZASSHI, Vol. 28, No. 2, pp. 127~130).

#### 1939

- 28.\* *A Mongol Chrestomathy* [ed.], Bunkiyūdō, May, 2+83 pp.

29. On the Origin of Script Mongol (GENGO KENKYŪ, No. 3, pp. 1~27 [Sept.]).

The author prefers the theory of Kereit origin to that of Naiman origin, because the Naimans are recorded as "Sê-mu" (a non-Mongol, probably a Turkic people). However, he does not think that it excludes the possibility that Script Mongol was established on the basis of the Mongol dialect(s) of the 13th century, because *a* or *e* could occur also after *o* or *ō* and the breaking of *i* was rare there, too. In addition, the author posits two voiced velars: a plosive /g/ and a weak fricative /ɣ/ in the intervocalic positions. In his opinion, the data of Script Mongol should be used in the historical study of Mongol only when their dates are evident. He also points out the possibility that *Yüan-ch'ao Mi-shih* was transliterated from a text in the ᠠᠯᠠᠭᠠᠰᠤᠯᠠ Script.

- 30.\* *Yüan-ch'ao Mi-shih in Script Mongol*, Vol. 1 [in collaboration with Dugarjab], Bunkyūdō, Oct., 12+58 pp.

The authors intended to make the text of this Mongol classic of history available to the Mongol people. In his preface, Hattori discusses, on the ground of the coincidence of some features in the way of transcribing sounds, the possible existence of a text in the ᠬᠦᠫᠦᠭᠦᠰᠤᠯᠤᠰ Script, from which the existing text of *Yüan-ch'ao Mi-shih* was transliterated with Chinese characters.

31. (Tr. from Russian) N.N. Poppe: *A Grammar of Script Mongol*, Moscow-Leningrad, 1937 (Mōko, No. 8, pp. 65~74 [Nov.]).

Only the Introduction was translated with some remarks.

32. On the Phoneme (BULLETIN OF PSJ, No. 59, pp. 1~4 [Nov. 1939]; Nos. 60/61, (175) pp. 9~11 [March 1940]).

Reviewing the theories of Daniel Jones and E. D. Polivanov, the author begins to develop his own idea of distribution and opposition.

33. The Mongol Language (*Lectures on the Problems of Asia*, Vol. 8: NATIONS AND HISTORY (2), pp. 449~487 [Dec.]).

An outline of the Mongol language.

#### 1940

34. (Tr. from Turkish) M.F. Togai: *New Mongolia* (Mōko, No. 92, pp. 85~89 (54) [Jan.]).

A translation of an article in the Turkish newspaper *Cumhuriyet*, with some remarks.

35. Terms Concerning Phonetics (in Sanki Ichikawa, ed.: *The Kenkyūsha Dictionary of English Philology*, January).

36. Concerning *Yüan-ch'ao Mi-shih in Script Mongol*, Vol. 1—Answer to Takashirō Kobayashi (Mōko, No. 11, pp. 83~96 [Feb.]).

37. A Verbal Ending *juxui* (ᠵᠡᠬᠡᠭᠡᠢ)~*jūkūi* (ᠵᠡᠭᠡᠭᠡᠢ) in Script Mongol (Tōhō GAKUHŌ, Tokyo, Vol. 11, No. 1, pp. 1~11 [March]).

In some Script Mongol texts translated from Script Manchu (e.g. *San-ho Shêng-yü Kuang-hsün*), Manchu *-habi* is regularly translated into Mongol *juxui*, with one of the two meanings: 1) emphatic preterite or 2) present perfect.

38. A Second Answer to Takashirō Kobayashi (Mōko, No. 13, pp. 88~95 [April]).

39. The Accent of Tatar Numerals (BULLETIN OF PSJ, Nos. 62/63, pp. 21~24 [June]).

All the numerals from 1 up to 199 have the stress on the last syllable: jegermé «20», illebér «51», jözuniké «112», whereas 200, 300, . . . ; 2000, 3000, . . . 100,000 have the stress on the penultimate: ikéjöz «200», sigézmen «6000», illémén «50000», etc.; 4809 is dūrtmepsigézjōzturáz.

40. A Classification of the Buryat Dialects (Mōko GAKUHŌ, No. 1, pp. 40~86 [July]).

The author classifies the Sine-Barga dialect as a third, intermediate dialect between Khalkha and Eastern Buryat.

41. On the Mongol Documents Excavated at *Olon Süme* (TÖHÖ GAKUHÖ, TOKYO, Vol. 11, No. 2, pp. 257~278 [July]).

A study of some of the documents found by Namio Egami in Inner Mongolia.

42. Preface (to Katsuji Fujioka: *A Kharachin Manuscript of Mêng-ku Yüan-liu*, in Roman Transliteration with a Japanese Translation, Bunkydō, July, pp. 1~11).

Hattori proposes a rigid comparative study of various texts in order to utilize the document as a linguistic datum.

43. On the Union Vowel in the Conjugation of Script Mongol Verbs (TÖA RONSÖ, No. 3, pp. 169~194 [Sept.]).

It clarifies the rules of occurrence of the union vowel *-u-~ü-*.

#### 1941

44. Spoken Mongol and Script Mongol (MÖKO GAKUHÖ, No. 2, pp. 134~191 [April]).

The author's opinion concerning the methodology of descriptive and comparative studies of dialects and historical study of the language. It criticizes the prevalent method.

45. Searching for Manchu in Girin Province (GENGO KENKYÜ, Nos. 7/8, pp. 47~67 [April]).

The author found in the cities of Ki-lin and Fu-yü several informants who knew some Manchu, the pronunciation of which was strongly influenced by Chinese.

46. The Predicative Personal Endings of Tatar and Their Accent (ibid., pp. 68~82 (158) [April]).

Investigating the grammatical functions of the forms, and conducting a comparative study of the Turkic and Altaic languages, the author concludes that *-lar* in *jazálar* «they write» is a predicative personal ending which comes from a suffixed *alár* «they», whereas *-lar* in *tatarlár* «Tatars», *maturlár* «(they) are beautiful», *mondalár* «(they) are here», *jazarlár* «(they) will write» is a simple plural suffix.

47. Mongol or Mangol (TÖHÖ GAKUHÖ, TOKYO, Vol. 12, No. 2, pp. 241~255 [Sept.]).

In order to transcribe the Mongol syllables *maŋ*, *moŋ*, *mōŋ*, *muŋ* the transliterator had to use only two Chinese syllables *maŋ* and *muŋ*. Thus, 忙 (*maŋ*) represents Mongol *maŋ* and *moŋ* and 蒙 (*muŋ*) Mongol *mōŋ* and *muŋ*. Therefore 忙蒙 can represent *mōŋgol*.

- 48.\* *The Study of Living Languages and the Turkic Dialects* (REPORTS, No. 3, Department of Research in the East Asian Peoples, The Japan Academy of Sciences, [Dec.]), 42 pp.

The author emphasizes the necessity and importance of the study of living languages and gives a survey of the Turkic languages.

49. A proposal for Improvement of the Mongol Script (MŌKO KENKYŪ, Vol. 3, No. 4, pp. 1~32 [Dec.]).

A proposal to eliminate the ambiguity in representing the sounds.

#### 1942

50. The Surroundings of Japanese (*Lectures on the National Language Culture*, Vol. (54) 6, pp. 332~350 [Jan.]).

A survey of the possibility of the relationship of Japanese to all the surrounding languages.

51. A Study of *Bumōki*—Material on the Kinki Accent in the Early Edo Period (Dialectological Society of Japan: *The Accent of Japanese*, Chūōkōronsha, pp. 125~159 [March]).

52. (In Chinese) Outline of Linguistics, tr. by Tuan-i Ch'ien (*Chung-kuo Liu-jih T'ung-hsüeh-hui Chi-k'an*, No. 1, pp. 59~72 [Sept. 1942]; No. 2, pp. 86~94 [Jan. 1943]; No. 3, pp. 60~68 [March 1943]).

A Chinese translation of the lecture given at the University of Pekin in 1942.

53. (Tr. from Mongol) Erdemtegüs: "My Daily Life"; Urji "A Record of Life" (*We in Manchukuo*, Chūōkōronsha, pp. 261~273 [Dec.]).

Translation of the writings of Mongol children.

#### 1943

- 54.\* *Mongolia and its Language*, Yukawa Kōbunsha, April, 4+9+339 pp.

A collection of published articles and essays, with a lecture on the outline of the Mongol language given at the University of Tokyo in 1942 (in 83 pp.).

It includes 23, 22, 17, 50, and 34 among others.

55. An Irregular Auxiliary Verb *bükü* in Script Mongol (MINZOKUGAKU KENKYŪ, New Series, Vol. 1, No. 6, pp. 33~53 [July]).

Comparing the forms in *Yüan-ch'ao Mi-shih*, *Hua-i I-yü*, ᠮᠤᠩᠭᠤᠯᠤᠯ Script, and modern dialects, the author posits only one stem \**bü-* for Proto-Mongol, instead of *bü(kü)*, *bö(ged)*, *bu(yu)* and *bü* «don't».

#### 1944

56. The Standard Language and Accent (JAPANESE, Vol. 4, No. 7, pp. 14~21 [July]; (175) No. 8, pp. 17~27 [Aug.]).

The difference between the learning of spoken language and that of written language and the impossibility of artificial reform of the former.

The author is developing his own concepts related to F. de Saussure's *langue* and *parole* and K. Bühler's *Sprechhandlung* and *Sprachwerk*.

57. The Broad Roman Transcription of the Chinese Sounds of the Chinese Charac-

ters Representing the Mongol Syllables Ending in *-o* and *-ō* in *Yüan-ch'ao Mi-shih* (Collection of Articles in Japanese Philology, in Commemoration of the Sixtieth Birthday of Professor Shinkichi Hashimoto, Iwanami Shoten, October, pp. 67~95).

One chapter of the original draft of the following book (58.\*).

## 1946

- 58.\* *A Study of the Chinese Characters Representing the Mongol Language in Yüan-ch'ao Mi-shih*, Bunkiyūdō, Sept., 4+146 pp.

It consists of 3 chapters in the introductory part and 13 chapters in the main part. Chapter 1) The genealogy of various copied and printed texts of *Y.M.*; Chapter 2) Proposal of 3 kinds of Roman transliterations; Chapter 3) A study of the various documents which describe the phonological system and structure of the 14th century Chinese. Chapter 1 of Part II: Introduction, in which the author concludes that the pronunciation of the Chinese characters in *Y.M.* was based on the northern dialect which was similar to that represented by *Chung-yüan Yin-yün*. Chapters 2~12 are missing because the manuscripts were burnt in World War II. Chapter 13) Conclusion, with an exhaustive list of the Chinese characters in 2 kinds of Roman transliteration.

- 59.\* *A Manual of the Mongol Script*, Bunkiyūdō, Sept., 2+48 pp.

60. A Lecture on the Grammar of Script Mongol (1)—Verbs—(Tōyōgo Kenkyū, No. 1, pp. 79~84 [Oct.]).

61. One Example of Mongol Fairy Tales (ibid., pp. 85~89).

An example from the Sine Barga tales collected by the author in 1936.

## 1947

62. Modern Mongol Script (Tōyōgo Kenkyū, No. 2, pp. 1~7 [March]).

- 63.\* *A Study of the Roman Spelling of Japanese*, Kenkyūsha, April, 3+64 pp.

A proposal of a new system of spelling.

64. Review of Shinkichi Hashimoto: *Outline of Japanese Linguistics* (Collection of (175) Works, Vol. 1) (Shohyō, No. 4, pp. 74~76 [May]).

65. On *Bunsetsu* (Syntagma)—Especially Concerning Japanese and English (175) (Collection of Articles in Commemoration of Sixtieth Birthday of Professor Sanki Ichikawa, Vol. 2, Kenkyūsha, July, pp. 131~146).

66. A Lecture on the Grammar of Script Mongol (2)—Verbs—(Tōyōgo Kenkyū, No. 3, pp. 1~8 [Aug.]).

67. Transcription and Transliteration (ibid., pp. 53~54).

68. A Word-Forming Suffix of Reflexive Verbs *-n-* in the Altaic Languages (MIN- (158) ZOKUGAKU KENKYŪ, Vol. 12, No. 2, pp. 107~108 [Nov.]).

It relates Turkic *-n-* and Mongol *-ni-* to Manchu *\*-n-* (e.g., *sa-* [←*\*san-*],

*sangka, sampi; toro*-[←\**toron*-], *toroko* [not *toroko*], *torombu*-), which was mentioned in 46 above, footnote 5, p. 75.

## 1948

69. A Lecture on the Grammar of Script Mongol (3)—Verbs—(TÔYÔGO KENKYŪ, No. 4, pp. 1~31 [May]).
70. Proto-Altaic \*-*ki*~\*-*gi* Suffixed to the Verb Stems (ibid., pp. 31~34).  
(158)
- 71.\* *Gold and Silver Dice—Folk Tales of the Altaic Peoples—*, Shōkō Shoin, Nov., 8+210+2 pp.  
It includes 9 tales which the author recorded from Sine Barga Mongol boys in 1936.
72. The Relationship of Japanese to the Ryukyuan, Korean, and Altaic Languages  
(158) (MINZOKUGAKU KENKYŪ, Vol. 13, No. 2, pp. 109~131 [Dec.]).  
81 is an English translation of this article. It consists of 5 chapters and concludes that the relationship of Japanese to other languages has not yet been established except for that to Ryukyuan.

## 1949

73. On the Romanization of the National Script (SHISŌ NO KAGAKU, Vol. 4, No. 1, pp. 1~5 [Jan.]).  
A revolutionary change-over of the national script from the Chinese characters and Kana system to Roman letters is impossible. It is necessary to teach children in the elementary schools to read and write freely in both systems of script.
74. *Bunsetsu* (Syntagma) and Accent (HŌGEN TO MINZOKU, No. 3, pp. 9~18 [Jan.];  
(175) No. 4, pp. 7~27 [Feb.]).  
A Study on the linguistic units of spoken Japanese.
75. Language (Heibonsha: *Encyclopedia of Social Sciences*, Vol. 3, January, pp.  
(175) 173~179).
76. Japanese and Characters (SHINKA, No. 1, pp. 2~8 [March]).
77. How to Divide Japanese Sentences into Words in Roman Script. (KOTOBA.  
(175) New Series, Vol. 2, No. 6, pp. 1~19 [June]).
78. Linguistics (The Committee for the Humanistic Sciences: *Humanistic Sciences*  
(175) *in Japan—Retrospective and Prospective—*, July, pp. 5~16).
79. On the Phonemic System—A Dialect of Niigata Prefecture as an Example—  
(GENGO KENKYŪ, No. 14, pp. 76~108 [Nov.]).  
The author's new procedure for phonemic analysis.
80. Concrete Units and Abstract Units of Language (KOTOBA, New Series, Vol. 2,  
(175) No. 12, pp. 16~27 [Dec.]).  
The author distinguishes three levels: 1) utterance, utterance-fraction

(concrete units); 2) sentence, linguistic production (abstract units of the first degree); 3) word, form (abstract units of the second degree).

81. (In English) The Relationship of Japanese to the Ryukyu, Korean, and Altaic Languages (TRANSACTIONS OF THE ASIATIC SOCIETY OF JAPAN, Vol. 1, after World War II, pp. 101~133).

This is the translation of 72. It was done without the author's collaboration, and contains a number of inexact translations and quite a few misprints.

## 1950

82. Comments on and Defense of the New National Kana Orthography (KOKUGO  
(175) TO KOKUBUNGAKU, Vol. 310, pp. 1~18 [Feb.]).

The proposal of minor improvements in the new national orthography, and a defense of it against the attacks of two eminent scholars, Sōkichi Tsuda and Tatsukichi Minobe.

83. Synonymous Words and Bound Forms (GENGO KENKYŪ, No. 15, pp. 1~26  
(175) [April]).

Proposal of three principles to discriminate synonymous (i.e., enclitic or proclitic) words from bound forms. It also mentions various degrees of boundness.

84. Review of Shichirō Murayama: Pronouns in Old Japanese (ibid., p. 47).  
(158)

85. Review of George L. Trager and Bernard Bloch: The Syllabic Phonemes of  
(90) English (ibid., pp. 80~85).

86. Review of Haruhiko Kindaichi: *gooku* and *gōku* (ibid., pp. 88~89).

87. (In English) Phoneme, Phone, and Compound Phone (GENGO KENKYŪ, No.  
(175) 16, pp. 92~108 [Aug.]).

## 1951

- 88.\* *Phonetics*, Iwanami Shoten, March, 9+271 pp., with two (three in later editions) tables of phonetic symbols.

Chapter 1) Introduction; 2) Organs of Speech; 3) Phones (Einzel-laute); 4) Phonetic symbols; 5) Activities of individual articulators; 6) Double articulations and other mechanisms; 7) Classification of sounds; 8) Length, stress, pitch, and syllable; 9) Accent, emphasis, and sentence-intonation.

89. Behaviorism in Linguistics (TETSUGAKU ZASSHI, Vol. 66, No. 710, pp. 128~  
132 [May]).

- (175) Complete exclusion of introspection in linguistics is not preferable.

- 90.\* *Phonology and Orthography*, Kenkyūsha, June, 3+282 pp.

It consists of 85 (above) and five lectures given at the Ministry of Education in 1949 and 1950, and proposes a new system of spelling in the Roman Script

## Orthography.

91. Mentalistically or Mechanistically? (GENGO KENKYŪ, Nos. 19/20, pp. 1~22  
(175) [Dec.]).

This is a Japanese translation from the English text of 97.

92. The Phonemic System of the Chakhar Dialect of Mongol (ibid., pp. 68~102).

A new procedure of phonemic analysis.

93. On the Possible Existence of a Text in the ᠬᠦᠫᠦᠭᠦᠰᠤᠯᠠᠭᠤᠰᠤ Script from which the Existing Text of *Yüan-ch'ao Mi-shih* Was Transliterated with Chinese Characters (ibid., pp. 120~121).

Defensive explanation of the author's standpoint (cf. 30) against Shichirō Murayama's criticism.

## 1952

94. The Genealogy of Japanese (The Anthropological Society of Japan: *The Japanese Nation*, Iwanami Shoten, June, pp. 36~47).

Chapter 1) What is the linguistic relationship? 2) The proofs of linguistic relationship; 3) How to promote the comparative study of Japanese with other languages.

## 1953

95. Review of Tokutarō Yasuda: *The History of Man* (SHISŌ, No. 343, pp. 110~  
(158) 116 [Jan.]).

96. Impressions of Linguistic Circles in America (KOKUGOGAKU, No. 11, pp. 51~54  
[Jan.]).

97. (In English) Mentalistically or Mechanistically? (EIGO SEINEN, Vol. 99, No. 3,  
(175) pp. 103~106 [March]; No. 4, pp. 159~161 [April]).

91 is a translation of this article.

98. An Inquiry into Meaning (GENGO KENKYŪ, Nos. 22/23, pp. 21~40 [March]).

- (175) A proposal to establish sememics, which is to semantics what phonemics is to phonetics.

99. The Phonemic System of Japanese and Its Romanized Spelling (THE BULLETIN  
(175) OF PSJ, No. 81, pp. 1~3 [April]).

A protest against the political solution of the problem of the national Roman orthography.

100. On the Method of Phonetic Observation (*Collection of Articles in Linguistics and Folklore, in Commemoration of the Seventieth Birthday of Professor Kyōsuke Kindaichi*, Sanseidō, May, pp. 121~138).

A search for the scientific basis of the "subjective" method (i.e., the method of observation by listening and of imitation of foreign sounds).

101. Review of N. Poppe: *Khalkha-Mongolische Grammatik*, 1951 (TÖYŌ GAKUHŌ,  
(175) Vol. 36, No. 1, pp. 108~124 [June]).



102. The Phonemic System of Japanese and the New Nippon System of Romanized  
(175) Spelling (KYŌIKU GIJUTSU, Vol. 8, No. 4, pp. 94~102 [July]; No. 5, pp. 93~  
105 [Aug.]).

Explanation of the author's standpoint to the general reader. It also utilizes the concept of distinctive features of Roman Jakobson.

103. My Opinions Concerning Researches in Dialects (GENGO SEIKATSU, No. 24, pp.  
(175) 13~21 [Sept.]).

Critical comments on the prevalent trends in Japan.

104. W. de Moraes' View on Japanese (SHISŌ, No. 352, pp. 81~90 [Oct.]).

The author emphasizes the point that Moraes' love for Japan and the Japanese people enabled him to grasp the "spirit" of the language.

## 1954

105. Sememics (*Dictionary of Philosophy*, Heibonsha, Jan., pp. 78~79).  
(175)

106. Non-Internationality in Linguistics (*Student Newspaper of the University of*  
(175) *Tokyo*, No. 183 [Feb.]).

107. The Accent of Japanese from the Phonological Viewpoint (KOKUGO KENKYŪ,  
(175) No. 2, pp. 2~50 [March]).

A new phonological concept of "prosodeme" (accent-pattern).

108. On the Problem of the Original Text of *Yüan-ch'ao Mi-shih* (GENGO KENKYŪ,  
No. 25, pp. 52~59 [March]).

Expanded and defensive explanation of the author's standpoint.

109. On the Phonemic System of Pekinese (ibid., pp. 78~79).

- (175) A proposal for a new analysis which differs from those of L. M. Hartman  
and Akiyasu Tōdō.

110. Appraisal and Criticism of the Governmental Policy Concerning the Reform of  
(175) the National Language and Script and Education in Them (NIPPON OYOBI  
NIPPONJIN, New Series, No. 42, pp. 76~80 [April]).

111. On the New Nippon System of Spelling in Roman Script (1)—Answer to Kōzō  
(175) Okunaka—(KYŌIKU GIJUTSU, Vol. 9, No. 2, pp. 124~126 [May]).

112. ——— (2)—Answer to Masato Maeda—(ibid., Vol. 9, No. 3, pp. 84~86  
(175) [June]).

113. Some Recent Problems in Linguistics (A Lecture given at the meeting of the  
(175) Research Circle of the Nations and Culture of Peripheral Asia, Institute for  
Oriental Culture, University of Tokyo [Dec.]), 5 pp.

Comments on the papers of Trager and Olmsted and explanations of the author's standpoint.

114. The Chinese Characters and Education in Them (NHK: *Kotoba no Kenkyū-*  
(175) *shitsu*, IV, Kōdansha, Dec., pp. 141~147).

A critical comment on the governmental policy of education in the Chinese

characters in the elementary schools.

115. On the Method of Glottochronology, i.e., Lexicostatistics—the Time-Depth of Proto-Japanese (GENGO KENKYŪ, Nos. 26/27, pp. 29~77 [Dec.]), with a summary in English.

A short history of the development of the method, an application of it to Old Japanese and the dialects of Tokyo, Kameyama, Kyoto, and Shuri (Okinawa), and a proposal for the modification of the formula for the calculation of the time-depth of divergent development.

#### 1955

- 116.\* *An Introduction to the Languages of the World*, Vol. II [coed. with Sanki Ichikawa], Kenkyūsha, May, 12+1336 pp., with two maps and a table of IPA.

23 linguists give outlines of 18 languages or language-families: Japanese with Ryukyuan, Korean, Tungusic, Manchu, Mongol, Turkic, Hungarian, Finnish, Ainu, Gilyak, Chinese, Annamese, Siamese, Burmese, Tibetan, Malayo-Polynesian, Hebrew, and Arabic.

Hattori writes the Introduction of 147 pp.: 1) On the number of languages; 2) Morphological classifications of languages and the evolutionary theory of language; 3) The development of the comparative method; 4) Examination of the method and glottochronology; 5) The languages of the world. He also describes the phonological structures of Japanese and Ryukyuan and the grammatical structure of the latter.

117. Sememics (Heibonsha: *The Large World Encyclopedia*, Vol. 2, June, pp. 350~351).

118. Additional Remarks on "The Accent of Japanese from the Phonological Viewpoint" (cf. 107) (KOKUGO KENKYŪ, Vol. 3, pp. 52~56 [July]).

119. A Glottochronological Study of Three Okinawan Dialects (MINZOKUGAKU KENKYŪ, Vol. 19, No. 2, pp. 142~151 [Sept.]).

178 is an English translation of this article.

120. Phonemics (I) (KOKUGOGAKU, No. 22, pp. 88~104 [Sept.]).

- (175) Various phonemic principles, including the principle of environmental assimilation, are presented.

121. The First Person Plural Pronouns in Manchu [with Kengo Yamamoto] (GENGO KENKYŪ, No. 28, pp. 19~29 [Oct.]), with a summary in English.

Spoken Manchu (cf. 134 below) has a peculiar distinctive sememic feature which distinguishes between the "inclusive" and "exclusive" forms.

122. Review of A. Meillet and M. Cohen: *Les langues du monde*, 1952 (ibid., pp. 82~89).

123. Review of Johannes Benzing: *Einführung in das Studium der altaischen Philologie und der Turkologie*, 1953 (ibid., pp. 90~94).

124. Review of Frederick Holden Buck: *Comparative Study of Postpositions in*

- (175) *Mongolian Dialects and the Written Language*, 1955 (FAR EASTERN QUARTERLY, Nov., 1955, pp. 136~139).  
 125. Dialects and the Common Language (*The Okinawa Times*, Nos. 2233/2234 (175) [Dec.]).  
 126. The Origin of the Language and People of the Ryukyus (*Ryūkyū Shimpō*, Nos. (158) 2402/2408 [Dec.]).

A discussion with Takeo Kanaseki.

## 1956

127. The Origin of the Language and People of the Ryukyus (*Ryūkyū Shimpō*, Nos. (158) 2514/2518 [April]).  
 A continuance of the discussion with T. Kanaseki.  
 128. Review of Kotojirō Imai: *Education in the National Language* (KYŌIKU, No. (175) 60, pp. 98~103 [June]).  
 129. The Common Language and Dialects (*For Correct Education in the National (175) Language*, Dai Nihon Tosho Kabushiki Kaisha, June, pp. 11~18).  
 130. The Genealogy of Japanese (*Zusetsu Nihon Bunkashi Taikei*, Vol. 1, Shōgakukan, (158) July, pp. 117~130).

One possible hypothesis is that Proto-Japanese was a dialect spoken by the people of the Yayoi culture in Northern Kyushu around the beginning of the Christian era. Even if Japanese were related to Korean, it is possible that the split between the two began several thousand years B.C.

131. The Ryukuan Language and Ryūka (Ryukyuan short poems) (KOKORO NO (158) HANA, Vol. 60, No. 8, pp. 1~10 [Aug.]).

It is possible that Ryūka and Waka (Japanese short poems) have divergently developed from the same origin parallel to the language.

132. Language (Heibonsha: *Large World Encyclopedia*, Vol. 9, Aug., pp. 378~383). (175)  
 133. Linguistics (ibid., pp. 389~392). (175)

134. The Phonological System and Structure of Spoken Manchu [with Kengo Yamamoto] (GENGO KENKYŪ, No. 30, pp. 1~29 [Sept.]), with a summary in English and Sonagrams of vowels.

Phonological description of Manchu spoken by Vecjinggha Gwalgiea from Hui Yüan in Sinkiang Province, the same informant as that in 21.

135. Phonemics (2) (KOKUGOGAKU, No. 26, pp. 39~56 [Oct.]). (175)  
 Explanations of the author's standpoint, in reply to Takashi Kamei.  
 136. (In English) The Analysis of Meaning (*For Roman Jakobson*, The Hague, pp. (175) 207~212). (235)  
 137. The Dialect of My Native Town (MIE KEN HÖGEN No. 3, pp. 1~4 [Dec.]). (158)

138. Nasalization of Vowels in Relation to Nasals [with Kengo Yamamoto and Osamu Fujimura] (KOBAYASHI RIGAKU KENKYŪJO HŌKOKU, Vol. 6, No. 4, pp. 226~235 [Dec.]).

154 is an English translation of this article.

### 1957

139. On Motoki Tokieda's Linguistic Theory (KOKUGO KOKUBUN, Vol. 26, No. 1, (175) pp. 1~18 [Jan.]).  
A criticism of Tokieda's theory.
140. On the Study of Ainu (KOKORO NO HANA, No. 700, pp. 238~244 [Feb.]). (158)
141. The Vowels of Japanese [with Kengo Yamamoto, Yutaka Kohashi, and Osamu Fujimura] (KOBAYASHI RIGAKU KENKYŪJO HŌKOKU, Vol. 7, No. 1, pp. 69~79 [March]), with a summary in English and many Sonagrams.  
Investigation of the distinctive features.
142. (In English) On Neutralization (TRAVAUX DE L'INSTITUT DE LINGUISTIQUE, Vol. (175) 2, pp. 41~43).
143. Phonemics (3) (KOKUGOGAKU, No. 29, pp. 77~103 [June]). (175)  
Explanations of the author's standpoint, in reply to Atsushi Hamada.
144. A Special Language of the Older Generations among the Ainu (MINZOKUGAKU KENKYŪ, Vol. 21, No. 3, pp. 38~45 [Aug.]).  
196 is an English translation of this article.
- 145.\* (*The Third*) *Test List for Basic Vocabulary* [with Hajime Kitamura, et al.], Aug., 6+110+17+2 pp.
146. Phone (Einzellaut) (Heibonsha: *Large World Encyclopedia*, Vol. 18, Sept., p. (175) 501).
147. On the Controversy Concerning "The Origin of Japanese" (*Mainichi Shimbun* (158) [Kyushu]), No. 26869 [Nov.]).
148. Preface (to Yu-te Wang: *The Basic Vocabulary of the Formosan Dialect*, Eiwa (175) Gogakusha, Dec. pp. 3~19).

A proposal of principles to distinguish compounds from combinations of words.

149. The Genealogy of Japanese (*Kojiki Taisei*, Vol. 3, *Gengo Monjihen*, Heibonsha, (158) Dec., pp. 1~95).

It consists of 8 chapters: 1) Introduction; 2) What is "the genealogy of languages"? 3) The relation of sound and meaning of words; 4) "Sound law"; 5) Comments on several recent works (Tokutarō Yasuda, Rokurō Kōyama, Johannes Rahder, Charles Haguenauer, Shōken Okuzato); 6) On the "Glottochronology"; 7) "Sounding" into the languages around Japanese with the purpose of studying the genealogy and formation of Japanese.

186 is an English translation of chapters 1), 7), and 8).

150. De Saussure's "Langue" and Tokieda's Linguistic Theory (GENGO KENKYŪ, No. (175) 32, pp. 1~42 [Dec.]).

A detailed criticism of the theory.

151. (in English) 咕連 in *Yüan-ch'ao Mi-shih* (*Ural-Altaische Bibliothek*, V *Studia Altaica: Festschrift für Nikolaus Poppe*, Wiesbaden, pp. 69~70).

## 1958

152. Phonemes and Prosodies of Japanese (Heibonsha: *Large World Encyclopedia*, (157) Vol. 22, March, pp. 243~244).

- 153.\* *A Study on Chung-yüan Yin-yün*, Part 1, The Texts [with Akiyasu Tödō], Kōnan Shoin, March, 6+11+2+266+(20+52) pp.

A comparative study of 8 kinds of extant texts, with an introduction in 11 pages, where the authors present a study on the genealogy of the texts.

A photographic reproduction of the T'ieh-ch'in-t'ung-chien-lou text is appended.

154. (In English) Nasalization of Vowels in Relation to Nasals [with Kengo Yamamoto and Osamu Fujimura] (*THE JOURNAL OF THE ACOUSTIC SOCIETY OF AMERICA*, Vol. 30, No. 4, pp. 267~274 [April]).

This is a translation of 138.

155. The Altaic Languages (*Kotoba no Kagaku*, Vol. 1: *Kotoba to Ningen*, Nakayama Shoten, May, pp. 221~237).

A sketch of the structure of the languages. It refers to a peculiar use of interrogative pronouns in Tatar and Mongol, similar to that of relative pronouns.

156. Review of *The Nature of Language and Education in the National Language*, (175) Asakura Shoten (*Shūkan Dokushojin*, No. 234, p. 6 [July]).

157. Review of John Charles Street: *The Language of the Secret History of the Mongols*, 1957 (GENGO KENKYŪ, No. 34, pp. 77~84 [Oct.]).

## 1959

- 158.\* *The Genealogy of Japanese*, Iwanami Shoten, Jan., 5+450+6 pp.

A collection of the following published articles with several unpublished remarks and annotations: 94, 72, 95, 130, 140, 126, 127, 131, 149, 147, 155, 162; 10, 26, 46, 68, 70, 85, 137.

159. The Dialects of the Amami Islands [with Yukio Uemura and Munemasa Tokugawa] (The Committee for the Investigation into the Amami Islands, The Union of Nine Academic Societies: *Amami*, Part 1: *Researches*, Nihon Gakujutsu Shinkōkai, March, pp. 403~432).

A survey of 75 villages from the viewpoint of linguistic geography.

160. A Glottochronological Study on the Dialects of the Amami Islands [with Y. Uemura and M. Tokugawa] (*ibid.*, pp. 433~464).

The dialects of 15 villages are compared with those of Tokyo, Kyoto, and Kagoshima (Southern Kyushu). The results concerning the relative differences in the dialects coincide very well with our linguistic intuition gained in terms of the other linguistic features.

161. On the Prosodeme (GENGO KENKYŪ, No. 35, pp. 21~22 [March]).  
(175)
162. On the Dialects of the Amami Islands—A Comparison with the Dialects of the  
(155) Okinawa and Sakishima Islands—(The Union of Nine Academic Societies: *The Sciences of Man*, Vol. 11, Shinseisha, pp. 77~99).
163. On Glottochronology—Answer to Takashi Kamei (BUNGAKU, Vol. 27, No. 6,  
(175) pp. 108~113 [June]).
164. Linguistics in Japan (Shinobu Iwamura, ed.: *The Nation and Culture of Japan*,  
Kōdansha, June, pp. 37~47).
165. On the Working Hypothesis: "There Is One and Only One Best Phonological  
(175) Interpretation" (KOKUGOGAKU, No. 37, pp. 84~86 [June]).
166. On Utterance, Sentence, and Form (ibid., pp. 87~91).  
(175) Answer to Atsuyoshi Sakakura.
167. (In English) The Length of Vowels in Proto-Mongol (STUDIA MONGOLICA, Tomus  
I, Fasciculus 12, Ulanbator), 10 pp.
168. The Length of Vowels in Proto-Mongol (GENGO KENKYŪ, No. 36, pp. 40~54  
[Oct.]).

This is a translation of 167, with many footnotes and additional remarks.

169. (In English) A Glottochronological Study of the Mongol Languages (ibid., p. 54).
170. (In English) Can We Understand Foreigners? (The National Committee of  
(175) UNESCO, The Ministry of Education of Japan: *International Symposium on the History of Eastern and Western Cultural Contacts*, 1957, Tokyo-Kyoto, pp. 237~243 [Nov.]).

Although it is extremely difficult to understand foreigners, it seems to be possible to investigate the sememic structure of foreign languages.

171. (Tr. from English) W.F. Twaddell: *On Defining the Phoneme*, Kenkyūsha,  
December, 13+89 pp.

It contains some annotations by the translator.

#### 1960

172. (In English) Comments on D.H. Hymes: Lexicostatistics So Far (CURRENT  
ANTHROPOLOGY, Vol. 1, No. 1, pp. 40~41 [Jan.]).
173. What is Language? (NHK Text for Radio: *Kyōyō Daigaku*, April, May, and  
June Issue, pp. 12~25 [March]).
174. A Lexicostatistical Study of the Ainu Dialects [with Mashiho Chiri] (MINZOKU-  
GAKU KENKYŪ, Vol. 24, No. 4, pp. 307~342, with 4 tables [Nov.]).

A comparative study of 15 dialects in Hokkaido and Sakhalin. The results

concerning the relative differences in the dialects coincide very well with our linguistic intuition gained in terms of the other linguistic features.

- 175.\* *Methods in Linguistics*, Iwanami Shoten, Dec., 10+838 pp.

A collection of the following published articles with several unpublished articles and remarks: 32, 56, 64, 65, 74, 75, 77, 78, 80, 82, 83, 87, 89, 91, 97, 98, 99, 101, 102, 103, 105, 106, 107, 109, 110, 111, 112, 113, 114, 115, 117, 118, 120, 121, 124, 125, 128, 129, 132, 133, 135, 136, 139, 141, 143, 146, 148, 150, 152, 156, 157, 161, 163, 165, 166, 170.

176. On Lexicostatistics (KEIRYŌ KOKUGOGAKU, No. 15, pp. 1~9 [Dec.]).

Answer to Hisanosuke Izui.

177. Participating in the First World Congress in Phonetics (BULLETIN OF PSJ, No. 105, pp. 18~19 [Dec.]).

The Congress was held in Tokyo in 1960.

#### 1961

178. (In English) A Glottochronological Study on Three Okinawan Dialects (IJAL, Vol. 27, No. 1, pp. 52~62 [Jan.]).

This is a translation of 119.

179. My Studies in Dialects (*Hōgengaku Kōza*, Vol. 1, Tōkyōdō, Jan., pp. 246~263).

A short autobiographical retrospect.

180. Prosodeme, Syllable Structure, and Laryngeal Phonemes (*Study of Sounds*, Vol. 9, Jan., pp. 1~21).

The author was obliged to omit some parts of his original paper, on account of the restriction on the number of pages. 183 is an English translation of the complete article.

- 181.\* *Folk Tales and Legends of the World* Vol. 6 [with Takesi Sibata and So-un Keum], Sa-E-Ra Shobō, Feb., 339 pp.

Hattori wrote the part: The Folk Tales of the Tungusic, Mongol, and Turkic Peoples (pp. 99~253).

182. Personal Affixes in the Sakhalin Dialect of Ainu (GENGO KENKYŪ, No. 39, pp. 1~20 [March]).

214 is an English translation of this article.

183. (In English) Prosodeme, Syllable Structure, and Laryngeal Phonemes (*Bulletin of the Summer Institute in Linguistics*, Vol. 1: *Studies in Descriptive and Applied Linguistics*, Tokyo, International Christian University, July, pp. 1~27).

A translation of 180.

184. More on Lexicostatistics (KEIRYŌ KOKUGOGAKU, No. 17, pp. 1~21 [July]).

Answer to Hisanosuke Izui.

185. *Kore, Sore, Are* and *This, That* (EIGO SEINEN, Vol. 107, No. 8, pp. 412~413 [Aug.]).

A contrastive study of Japanese and English.

186. (In English) The Affinity of Japanese—Phonetic Law and Lexicostatistical “Sounding” (ACTA ASIATICA, Vol. 2, The Tōhō Gakkai, pp. 1~29).  
A translation of chapters 1, 7, and 8 of 149.

## 1962

187. The Genealogy of Japanese (*Lectures on the Ancient History*, Vol. 3: *The Formation of the Ancient Culture*, Gakuseisha, April, pp. 316~338).  
An exposition of the problem to historians. Some new ideas are added.
188. (In English) Comments on K. Bergsland and H. Vogt: “On the Validity of Glottochronology” (CURRENT ANTHROPOLOGY, Vol. 3, No. 2, pp. 134~135).
189. The Decendants of the “Grey Wolf” (BUNGEI SHUNJŪ, Special Issue for Sept., pp. 248~253).  
A short sketch of a trip to Afghanistan in search of the Moghols in the autumn of 1961.
190. The 5th Meeting of the Permanent International Altaistic Conference (GENGO KENKYŪ, No. 42, pp. 58~61 [Oct.]).
191. Preface (to the Japanese translation of Bloomfield’s *Language* by Kō Miyake and Sukezumi Hino, Taishūkan, Nov., pp. 3~8).

## 1963

192. Impressions of American and European Linguistic Circles (ELEC BULLETIN, (235) No. 8, pp. 2~6 [June]).
193. A Spoken Language Dictionary (Comments on Takeshirō Kuraishi; *Iwanami Dictionary of Chinese*).

## 1964

194. The Structure and Function of the Sememe (GENGO KENKYŪ, No. 45, pp. 12 (235) ~26 [March]).  
A proposal of a new approach to the analysis of sememes.
195. The Sound and Meaning of Language (KOKUGOGAKU, No. 56, pp. 1~16 (235) [March].)  
205 is an English translation of this article.
196. (In English) A Special Language of the Older Generations among the Ainu (LINGUISTICS, No. 6, pp. 43~58 [June]).  
This is a translation of 144.
197. On the Improvement of the Teaching of Foreign Languages (ELEC BULLETIN, (235) No. 11, pp. 2~9 (38) [July]).
- 198.\* *An Ainu Dialect Dictionary* [with the assistance of Mashiho Chiri, Shōichi Kimura, Kengo Yamamoto, Tōru Mineya, Hajime Kitamura, and Suzuko Tamura], Iwanami Shoten, August, 43+556 pp., with an English introduction in 5 pages.



This is a classified dictionary with indexes in Ainu, Japanese, and English. It contains 2042 entries, and every entry includes the forms of eight dialects of Hokkaido and one Sakhalin dialect. A few Kurile words are sometimes added.

199. On Hideyo Arisaka's posthumous work: *A Study of the History of Accent* (ibid., Sanseidō, Nov., pp. 211~220).
200. On Drill (ELEC BULLETIN, No. 12, pp. 19~23 [Nov.]).  
(235)
201. Review of Helmut Gipper and Hans Schwarz: *Bibliographisches Handbuch zur Sprachinhaltsforschung* (GENGO KENKYŪ, No. 46, pp. 53~58 [Nov.]).
202. Language for Broadcasting Viewed from the Linguistic Viewpoint (BUNKEN GEPPŌ No. 163, pp. 8~9).
203. (In English) Comments (*Proceedings of the Ninth International Congress of Linguists*, The Hague, pp. 278~281; pp. 1063~1064; p. 1093).

## 1965

204. A Reform of the Teaching of English in Japan (ELEC BULLETIN, No. 13, pp. 7~8 [Feb.]).
205. (In English) The Sound and Meaning of Language (FOUNDATIONS OF LANGUAGE, Vol. 1, No. 2, pp. 95~111 [May]).  
This is a translation of 195.
206. Descriptive Linguistics in Japan (1) (KOKUGOGAKU, No. 62, pp. 1~18 [Sept.]).  
225 is an English translation of this article and 209.
207. The Creation and Propagation of Letters and Characters (ENERGY, Vol. 12, No. 4, pp. 8~9 [Oct.]).

## 1966

208. On the Learning of English (ELEC BULLETIN, No. 17, p. 1 [Feb.]).  
(235)
209. Descriptive Linguistics in Japan (2) (KOKUGOGAKU, No. 64, pp. 1~30 [March]).  
(235)  
225 is an English translation of 206 and this article.
210. Chomsky's "Revolution" in Linguistics (*The University of Tokyo Newspaper*, No. 674, p. 6 [Oct.]).
211. Comments on Nikolaas J. van der Merve: "New Mathematics for Glottochronology" (CURRENT ANTHROPOLOGY, Vol. 7, No. 4, p. 492 [Oct.]).
212. Greeting Professor Noam Chomsky (KOTOBA NO UCHŪ, Vol. 1, No. 6, pp. 5~14 [Nov.]).

## 1967

213. The Phonological Structure and Accent of Ainu—An Attempt to Reconstruct

Proto-Ainu—(*Study of Sounds*, Vol. 13, pp. 207~223 [Jan.]), with a summary in English.

It establishes the phonological opposition of short and long vowels in the Sakhalin dialect, which is lacking in the dialects of Hokkaido. The former dialect has preserved most of the oppositions of the length of vowels in the proto-language except for a few cases.

214. (In English) Personal Affixes in the Sakhalin Dialect of Ainu (*LINGUISTICS*, No. 29, pp. 58~79 [Feb.]).

This is a translation of 182.

215. Interview Inquiry into the Sememe (*KOTOBA NO UCHŪ*, Vol. 2, No. 3, pp. 19~29 (72) [March]).

Investigation into the sememes of some Korean words through an informant.

216. Preface—On the Method of Investigation into the Language and Culture of the Ryukyus (to Zenchū Nakahara and Shuzen Hokama: *A Dictionary and a Complete Concordance of Omoro Sōshi*, Kadokawa Shoten, March, pp. 1~8).

217. Where Did Japanese Come From? (*KOTOBA NO UCHŪ*, Vol. 2, No. 4, pp. 1~10 (15) [April]).

A new discussion on the genealogy of Japanese.

218. (In English) Phonetic Training as a Prerequisite for Researchers in Speech-Sounds (*ANNUAL BULLETIN*, No. 1, Research Institute of Logopedics and Phoniatrics, University of Tokyo, pp. 35~36 [April]).

219. *Yama* «mountain», *Mori* «forest», and *Take* «high mountain» (*KOKUGOGAKU*, No. 69, pp. 66~73 [June]).

A comparative study of the sememes of these words in the various Japanese dialects.

220. Professor Roman Jakobson (*KOTOBA NO UCHŪ*, Vol. 2, No. 8, pp. 52~66 [Aug.]).

A short biography and history of the development of his linguistic thinking.

221. Structure and Function of Language (*Public Lectures of the University of Tokyo*, Vol. 9: *Language*, University of Tokyo Press, August, pp. 3~27).

222. On the International Seminar on Bilingualism (*KOTOBA NO UCHŪ*, Vol. 2, No. 11, pp. 38~45 [Nov.]).

223. (In English) The Sense of Sentence and the Meaning of Utterance (*To Honor Roman Jakobson*, The Hague, pp. 850~854).

224. The Mongols in Pakistan (*MINZOKUGAKU KENKYŪ*, Vol. 32, No. 3, pp. 225~227 [Dec.]).

During and after World War II, several thousand Kazakhs stayed for about ten years in Mansera, north to Abbotabad near Taxila. They have been wrongly reported as Mongols.

225. (In English) Descriptive Linguistics in Japan (Thomas A. Sebeok, ed.: *Current*

*Trends in Linguistics*, Vol. 2: *Linguistics in East Asia and South East Asia*, The Hague, pp. 530~584).

This is a translation of 206 and 209.

226. (In English) The Principle of Assimilation in Phonemics (WORD [*Linguistic Studies presented to André Martinet*, Part I: *General Linguistics*], Vol. 23, No. 1-2-3, pp. 257~264 [Dec.]).

## 1968

227. On the Ryukyuan Dialect of Japanese (BUNGAKU, Vol. 36, No. 1, pp. 1~14 [Jan.]).
228. A Linguist's Impression of a Neighboring Country (BUNGAKU, Vol. 36, No. 2, pp. 108~114 [Feb.]).

Impression of South Korea.

229. The Accent, Mora, and Syllable of Korean (KOTOBA NO UCHŪ, Vol. 3, No. 5, pp. 84~94 [May]), with a summary in English.

Rules of correspondence of prosodemes between the Taegu dialect and Middle Korean. Difference in the structure of syllable and mora between Korean and Japanese.

230. Professor Milka Ivić (KOTOBA NO UCHŪ, Vol. 3, No. 7, pp. 84~90 [July]).
231. Review of Teruo Hirayama: *Studies on the Ryukyuan Dialects* (KOKUGOGAKU, No. 74, pp. 81~85 [Sept.]).

Some new examples of the application of the environmental assimilation principle in phonemics.

232. Meaning (*Iwanami Lectures in Philosophy*, Vol. 11, *Language*, October, pp. 283~338).

1) The language of man; 2) The analysis of language; 3) The communication of meaning; 4) The analytical study of "sense" and the "sememe."

233. Professors Milka and Pavle Ivić (KOTOBA NO UCHŪ, Vol. 3, No. 11, pp. 85~91 [Nov.]).

234. On the Dialect of Hachijō Island (*ibid.*, pp. 92~95).

It is possible that the dialect split from the others at a stage earlier than that of Proto-Japanese although it is apparently under the overwhelming influence of the mainland dialects of the historical period.

- 235.\* *A Study in the Basic Vocabulary of English*, Sanseidō, November, 14+310 pp.

It consists of three parts. Part II of 140 pages is a sememic study on some portion of the English basic vocabulary. Parts I and III are a collection of the following published articles: 136 (in Japanese), 195, 194, Chapter 5 of 209; 192, 197, 200, 208.

## 1969

236. Preface—A Synchronistical Study of the Ainu Place-Names of the Northern

- West Coast of Sakhalin—(to Hirotarō Sasaki: *A Small Dictionary of the Ainu Place-Names of Sakhalin*, Miyama Shobō, March, pp. 1~53).
237. Preface (to Kengo Yamamoto: *A Classified Dictionary of Spoken Manchu* [cf. 134], with *Manchu, English, and Japanese Indexes*, Institute for the Study of Languages and Cultures of Asia and Africa, March, pp. 3~6).
238. Ainu “Adjectives” Denoting «Large» «Small» «Thick» «Thin», Etc. (KOKUGO KENKYŪ, No. 28, pp. 2~13 [May]).  
A sememic study.
239. Language and Culture (ELEC BULLETIN, No. 27, p. 1 [Sept.]).
240. Oppositions of New and Old Trends in the History of Development of Linguistics and the Teaching of English (THE ENGLISH TEACHERS’ MAGAZINE, Tai-shūkan, Vol. 18, No. 8, pp. 38~43 (~67) [Nov.]).  
It refers to the oppositions: comparative grammar versus philology, phonology versus phonetics, generative grammar versus the linguistics so far, etc.
241. (In English) A commentary on R. Cooper: How can we measure the roles which a bilingual’s languages play in his everyday behaviour? (L. G. Kelly, ed.: *Description and Measurement of Bilingualism: an international seminar, University of Moncton, June 6~14, 1967*, Toronto, pp. 209~213).

# AGGLUTINATION IN NORTHERN EURASIA IN PERSPECTIVE

ROBERT AUSTERLITZ

## I

The following discussion is an attempt to combine information about the language types of Northern Eurasia with the distribution of the language families of that area. By keeping the typological matrix clearly distinct from genetic considerations but by applying a simple tenet of linguistic geography to the deployment of language-family types, it is hoped that a discussion of the possible prehistory of language-family types in Eurasia can be launched.

It is not my purpose here to prove or disprove that language family A is or is not related to language family B. Nor am I interested in the question of whether typological indices are or are not admissible in comparing language families for the purpose of establishing genetic affinity between them. My aim is to try to reconstruct the typological picture of Northern Eurasia at an earlier point in time and to extract a conclusion (concerning both types and language families) from that picture.

Needless to say, any such conclusion must remain tentative and subject to revision. It is felt, however, that the discussion need not necessarily remain infertile; too many large-scale and long-range comparisons of families have been made and are still being made without reference to the simple questions of space, time, and type. I therefore hope to be able to couch my own presentation in more realistic, down-to-earth terms.

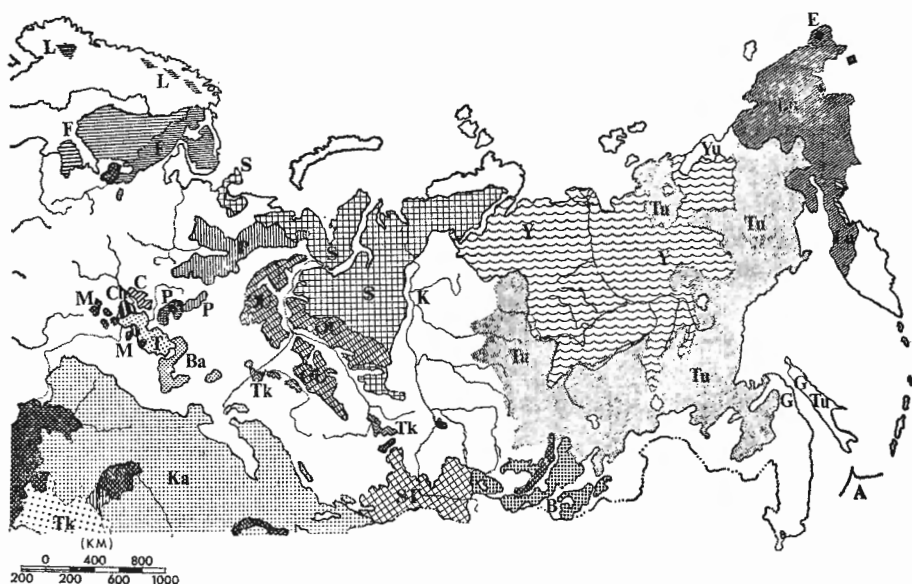
## II

To ensure clarity and prudence, only well-established families (Uralic, Luorawetlan, Indo-European, Eskimo-Aleut) will be referred to. The important language isolates Ket (i.e., Yenisei-Ostyak), Yukagir, Gilyak, and Ainu will be treated on the same level as language families.

The Altaic family presents certain problems inasmuch as the coherence and interrelationship of Turkic, Mongol, and Tungus is not quite clear and the entire family, as such, is not as convincing as Indo-European, Uralic, or Luorawetlan. *Altaic* will nevertheless be used in its usual sense of that family which consists of Turkic (including Chuvash), Mongol, and (Manchu-) Tungus. Korean and Japanese will be considered language isolates.

One last terminological point. The term *agglutinating* will be used to denote lan-

guages which have most or all of the following morphological characteristics: suffixation (generally correlated with the absence of prefixation), a system of possessive suffixes in the noun which can generally be correlated with the person-marker system in the verb, a developed participial system, local cases in the noun, syntax in which the modifier precedes the head of the construction, the finite verb as cloture marker at the end of the sentence, sequences of comparatively many suffixes, noun-surrogates in postpositional function. The term also suggests, secondarily, the presence of vowel harmony, the absence of initial consonant clusters, and bisyllabic roots. These latter criteria are not given the same weight as those enumerated above. In a general sense, agglutinating languages are thought of as being more easily segmentable into stems (or roots) followed by a potentially long series of (first) derivational and (then) inflectional suffixes. This simple formula will be kept in mind in the use of the term *agglutinating* as used below.



SCHEMATIC MAP OF 20-TH CENTURY NORTHERN EURASIA

The location of languages and language groups is approximate. Russian is not indicated. The key to the abbreviations used follows.

#### ALTAIC

B = Buryat  
Ba = Bashkir  
Ch = Chuvash  
Ka = Kazakh  
ST = South-Siberian Turkic  
T = Tatar  
Tk = other Turkic  
Tu = Tungus  
Y = Yakut

#### URALIC

C = Cheremis  
F = Finnic  
L = Lapp  
M = Mordvinian  
P = Permian  
OU = Ob-Ugric  
S = Samoyed

#### OTHER

A = Ainu  
E = Eskimo  
G = Gilyak  
K = Ket  
Lu = Luorawetlan  
Yu = Yukagir

## III

Typologically, the languages of Northern Eurasia present an almost but not completely contiguous picture. The map reveals the broad belt of agglutinating languages: Uralic, Altaic, Yukagir, and Gilyak (as well as Korean and Japanese—if we extend our notion of the area under discussion further to the South). This belt is interrupted by a non-agglutinating language (Ket) in the very heart of the South; it is flanked in the West by Indo-European and, in the East, by Eskimo, by Luorawetlan (Chukchi-Koryak-Kamchadal), and by Ainu, all of which are non-agglutinating.

The maps so painstakingly prepared for 17th-century Siberia by Dolgikh and his associates<sup>1</sup> reveal more or less the same picture: Yukagir spreads over a wider area, both toward the South and toward the West, thus almost making contact with Samoyed (a fact which helped promote the Uralic-Yukagir hypotheses of Bouda, Collinder, Tailleur<sup>2</sup> and others). We know that Yakut is a recent intruder in Siberia.

We may go further and assume that a certain indeterminate number of millenia ago the foci (proto-languages) from which the present-day agglutinating languages and their families have sprung were restricted to smaller and more compact areas. Thus, simply for the sake of the argument, let us assume an *Urheimat* for Uralic near the confluence of the Rivers Kama and Volga, for Altaic somewhere to the East of the Uralic *Urheimat*, for Proto-Yukagir still further toward the East, and for Proto-Gilyak at a considerable distance to the east or southeast of the Yukagir *Urheimat*. Let us assume that this picture prevailed *n* millenia ago. We can leave open the questions as to whether these *Urheimaten* were contiguous or not; it does not matter.

The fact remains that, given this picture of the distribution of the proto-agglutinative group(s) for *n* millenia ago the question arises as to the relative position of the non-agglutinative groups. We can be fairly certain that Indo-European, regardless of its state of development at this particular point in time, was situated to the West of Uralic.<sup>3</sup> If any of the Proto-Caucasian groups plays a role at all in this discussion, we can assume it to have been situated to the South or Southeast of Indo-European and hence to the South of Uralic. In the extreme East, Luorawetlan must certainly be placed beyond the easternmost boundary of Yukagir. Ainu, one would be led to think, judging from archaeological and prehistoric evidence, was already an insular language or, if continental, confined to the Okhotsk-Maritime area.

Ket thus remains the only non-agglutinative language in this reconstructed picture which is not liminal on the West-to-East axis. The question arises: is it more likely

<sup>1</sup> *История Сибири, т. II, Сибирь в составе феодальной России*. Ленинград, 1968.

<sup>2</sup> The most recent literature can be found in B. Collinder, "Hat das Uralische Verwandte?," *Acta Societatis Linguisticae Upsalensis*, Nova Series 1:4 (1965), pp. 109–180.

<sup>3</sup> E.G. Pulleyblank (*Journal of the Royal Asiatic Society*, April 1966) proposes a site for Proto-Indo-European much farther to the East, nearer to Proto-Chinese. This does not affect the main argument presented here.

that Ket was pushed to the South from the North by entering Uralic (Samoyed, Ob-Ugric) and Altaic (Tungus—and later Yakut?) groups or is it more likely that Ket was pushed northward by forces in China, Mongolia, or Central Asia? Or should we assume that Ket has always been spoken in the general area where it is spoken today (around Turukhansk), perhaps in a wider circle? Judging from the position of the congener languages (Kott, Arin, Assan), let us assume that the original Yeniseian (Ket-and-congeners) focus was in the mountainous area South of Turukhansk. Ket might thus be considered as the boundary between the agglutinating belt and the large zone to the South of that belt, albeit a small point along a long frontier. (In this area, Altaic languages have spread southward so that they are in touch with the surrounding non-agglutinating (Indo-European, Tibeto-Burman, and Chinese) areas. In the East, Korean occupies a similar position.)

## IV

We can now apply one of the basic tenets of linguistic geography to the deployment of types as described in section III. The tenet is simply that while the marginal zones of a linguistic area are conservative, the central zone is innovating. This principle is not necessarily a law; in many instances, other and more powerful factors (which are generally extra-linguistic: cultural, political) can override it. The principle has been so often invoked with useful results that we can apply it here simply to pursue our argument. If the non-agglutinating marginal zones are conservative and the agglutinating central zone is innovating we emerge with *the hypothesis that the agglutinating type in Eurasia is innovating*, i.e., that it is the result of a more recent (and/or rapid?) change in type, from a non-agglutinating type to the agglutinating one.<sup>4</sup>

Regardless of whether the old idea that the agglutinating type is "primitive" is correct or incorrect, or whether it is still held or not, the notion that the agglutinating belt in Eurasia is more recent than the non-agglutinating languages which surround it suggests the question: are there indices or clues in the present-day agglutinating languages (in the belt) which would suggest that these languages were at one time not agglutinating?

Yes. We need only look at Wolfgang Steinitz's<sup>5</sup> main contributions to the history and reconstruction of Finno-Ugric (Uralic) to find that the problems which vexed him most (vowel alternations in the root; reduced vowels and their role) are much less typical of the agglutinating type than of other (e.g., the Indo-European or "Caucasian") types. In other words, what Steinitz discovered was an ancient non-agglutinating layer in Uralic. Yukagir seems to lend itself to similar speculations which I have not

<sup>4</sup> This is at variance with the idea held by some, explicitly or implicitly, and probably descended from the Schlegels and from Max Müller, that the agglutinating type is "primitive," i.e., that it is at a stage one or more steps behind those language types which lack the characteristics enumerated at the end of section II, above (as samples of typically agglutinating features).

<sup>5</sup> *Geschichte des finnisch-ugrischen Volkstums*, Stockholm, 1944.



pursued. I am not competent to speak about Proto-Altaic in this connection.

The difficulties in reconstructing Proto-Japanese (e.g., its complicated vowel system) may also suggest that Japanese may not always have been as agglutinating (in the sense indicated in section II) as it is now. This suggests that Japanese (and with it, Korean and Gilyak), languages which today lie at the periphery of the agglutinating belt, moved into their present-day loci relatively *recently*—if they are to be thought of as having participated in the general and over-all development sketched here for the “central” agglutinative zone as a whole. (The term *relatively* here means relative to *n* millennia, as assumed in section III.)

A train of thought similar to that presented here for the North-Eurasian agglutinating belt could be imagined in connection with Dravidian, in South India. Crowded into the southernmost area of the Indian subcontinent by Indo-Aryan and Munda, Dravidian (an “agglutinating” language family by the standards used here) is in a position not dissimilar to that of the larger and more complex northern belt, but the total picture is simpler, only because there are fewer factors (areal, linguistic, of mobility) involved. By analogy, Brahui (the northernmost and westernmost Dravidian language, now spoken in Pakistan and not in contact with any other Dravidian language) would be in the position of Japanese, Korean and Gilyak which, as we have seen, are situated at the extreme East of the main belt. There are good reasons for assuming that Brahui is a vestige of a southward migration of (Proto-) Dravidian. The analogy could therefore hardly be maintained for Japanese-Korean-Gilyak, unless we wish to introduce an entirely new set of questions.

Finally, we should remember that isoglosses are not lifeless boundaries. What is a marginal zone in one complex may be a core zone in another complex and conversely, a central and innovating area in one complex may be a conservative and liminal area in another. This again introduces reference to spheres beyond the confines of language. It would therefore be very useful to collate the thoughts presented here with comparable or parallel ideas or perhaps even achievements in cultural anthropology and archaeology. Since language is spoken by living, acting people we should not try to recapture its past without reference to man’s total experience, even on a long historical axis.

V

I can only repeat that the broad outline sketched here should not be taken to be a well-substantiated theory but should be interpreted, rather, as an incentive to further thinking about the linguistic prehistory of Northern Eurasia, much as intuitive hints about internal reconstruction can lead to eventually sound and well-formed theories about earlier stages of a given language, even if such intuitive hints must eventually be abandoned.<sup>6</sup>

COLUMBIA UNIVERSITY, U.S.A.

<sup>6</sup> It gives me pleasure to thank my colleagues Érica Ch. de García, Søren Egerod, and M. I. Herzog who have read and constructively commented on the pre-final version of this paper.

# DÉFINITION D'UN PARFAIT EN PALÉO-SIBÉRIEN ORIENTAL

ÉMILE BENVENISTE

Les langues qui forment le groupe oriental du paléo-sibérien, et qu'on désigne maintenant sous le nom collectif de luorawetlan,<sup>1</sup> à savoir le čukči, le koryak et le kamčadal, présentent plusieurs traits qui éveillent d'intéressantes comparaisons typologiques.

Nous citerons d'abord celui-ci. Le čukči et le koryak<sup>2</sup> font une distinction essentielle entre les verbes transitifs et les verbes intransitifs. Ils distinguent aussi dans la flexion nominale un cas "absolu" et un cas "subjectif," selon la terminologie de Bogoraz et Boas. Ces deux distinctions couplées gouvernent la syntaxe de la rection verbale. La forme absolue du nom et du pronom est employée pour indiquer le sujet du verbe intransitif et l'objet du verbe transitif; la forme "subjective" pour le sujet du verbe transitif. On retrouve ici une construction bien connue dans les langues à ergatif. Mais un second trait vient spécifier celui-là. Le cas "subjectif" du luorawetlan a deux autres fonctions: il énonce l'acteur dans la construction passive, et il désigne l'instrument et la modalité.<sup>3</sup> C'est donc un véritable instrumental. Nous ne pousserons pas plus loin cette observation: on trouvera dans la grammaire de Bogoraz les données, d'ailleurs claires, relatives à ce cas en *-ā*, *-tā*, *-e* qui permettront une étude plus approfondie.

C'est une autre particularité du verbe luorawetlan que nous essayons ici de mettre en lumière, parce qu'elle n'a pas encore été reconnue et qu'on doit, pour la dégager, combiner plusieurs ordres de faits.

Le verbe de ces langues comprend plusieurs formations nominales employées avec valeur prédicative et aptes alors à se caractériser comme verbales par des propriétés spécifiques: incorporation du régime nominal, combinaisons de suffixes modaux, etc. Ces formations relèvent donc de deux classes distinctes: selon la syntaxe de leur emploi, elles sont nominales ou verbales.

---

<sup>1</sup> Pour la présente étude nous n'avons pu utiliser que la grammaire du čukči de Bogoraz, revue et publiée par Boas (*Chukchee in Handbook of American Indian Languages*, II, p. 631 sqq.). Toutes les données présentées ici (en transcription un peu simplifiée) proviennent de cette description, à laquelle nous renvoyons constamment par la suite. Un aperçu de l'ensemble des langues paléo-sibériennes a été donné par R. Jakobson dans les *Langues du Monde* 2e éd. pp. 403-431 avec bibliographie détaillée.

<sup>2</sup> Les faits koryak sont si voisins de ceux du čukči que, en général, ils relèvent des mêmes observations. En kamčadal, l'influence du russe a ruiné ou troublé une partie notable du système.

<sup>3</sup> Cf. Bogoraz, *op. cit.*, §§ 37 et 92.

Dans cette catégorie de formes nous considérerons celle qui a pour indice le morphème disjoint *ga...lin*, encadrant des éléments de classes variées réduits à l'état non-initial. Le préfixe *ga-* aussi bien que l'affixe *-lin* sont sujets aux variations de timbre dues à l'harmonie vocalique et aux variations consonantiques provoquées par les contacts avec les éléments incorporés.

Entre *ga-* et *-lin* s'insèrent soit des formes nominales, soit des racines verbales avec leurs déterminations variées, grammaticales et sémantiques, et ce complexe se comporte selon le cas ou comme substantif ou comme verbe.

Quelle est la fonction de *ga...lin*? On l'a décrite dans des termes entièrement différents pour la forme nominale et pour la forme verbale.

En tant que constituant de la forme nominale, *ga...lin* indique le possesseur d'un objet.<sup>4</sup>

*ga-qaa-lin* "celui qui a des rennes" (*qaa*)

*g-ekke-lin* "celui qui a des fils" (*ekke*)

Ce préfixe *ga-* semble n'exister que lié au postfixe *-lin*, mais *-lin* à l'état autonome exprime "la mesure d'une qualité." Or la forme nominale en *ga...lin* est susceptible de s'appliquer aussi à la 1ère ou à la 2e personne; en ce cas *-lin* est remplacé par les pronoms suffixes de 1ère ou 2e personne singulier ou pluriel: *-i-gum* 1e sg.; *-i-gīt* 2e sg.

*ga-qaa-lin* "celui qui a des rennes"

*ga-qaa-i-gum* "moi qui ai des rennes"

*ga-ra-lin* "celui qui a une maison (*ra*)"

*ga-ra-i-gīt* "toi qui as une maison."

La même formation, avec le même jeu de suffixes personnels ou non personnel (*-lin*), fonctionne comme forme verbale.<sup>5</sup> Avec *-lin* de 3e personne (c'est-à-dire non-personne) le sens peut être actif ou passif:<sup>6</sup>

*ga-pēla-lēn* "il l'a laissé" (ou "il a été laissé")

*ga-pēla-i-gum* "j'ai laissé"

*ge-rkur-lin* (> *gerkutin*) "il a été acheté" (*-rkur-* "acheter")

*ge-nel-lin* (> *genetin*)<sup>7</sup> "il est devenu" (*-nel-*)

*ge-nel-i-um*<sup>7</sup> "je suis devenu."

La forme verbale en *ga...lin* comporte des degrés variables de complexité morphologique. Elle peut inclure seulement la racine verbale entre *ga-* et *-lin*:

*gelqātlin* (de *ge-lqāt-lin*) "il est parti"

*ga-lpīnrī-len* "il a donné" (*-lpīnrī-* "donner")

*genñiulin* (de *ge-tñiu-lin*) "il a envoyé" (*-tñiu-* "envoyer")

*ga-tvī-len* "il a dit"

<sup>4</sup> *Op. cit.*, § 48.

<sup>5</sup> *Op. cit.*, § 73.

<sup>6</sup> Nos exemples sont pris dans les §§ 45, 48, 73, 74.

<sup>7</sup> Pour *nel* "devenir," cf. *op. cit.*, § 77. La finale pronominale de 1ère personne sg. *-i-gum* se réduit souvent à *-i-um*.

*ga-nto-len* "il est sorti"

ou la racine verbale avec un déterminant nominal:

*yaal-gĩka-ta ge-ggil-gepti-lin* "il l'a frappé avec le talon de ses pieds de derrière" (*yaal* "derrière," *gĩka* "pied," *-ta* instrum., *ggil* "talon").<sup>8</sup>

*g-ača-qaa-nmĩ-len* "il a tué le renne gras" (*ača* "graisse, gras," *qaa* "renne," *-nmĩ-* forme intérieure de *-tĩm-* "tuer"<sup>9</sup>);

ou la racine verbale avec des infixes grammaticaux ou pronominaux:

*ginenqũgeulin* "il m'a fait mourir de faim"<sup>10</sup> (morphème causatif *-r(i)* . . . *-eu-* qui, précédé du préfixe verbal, devient *-n(i)* . . . *eu-*;<sup>11</sup> pronom 1ère sg. *-ine-* "moi"; racine *-qupq-* "mourir de faim"). La forme se décompose donc en

*g-ine-n-qupq-eu-lin*

à comparer pour le causatif avec

*ga-n-ečhet-au-len* "he made it jump off."<sup>12</sup>

Bogoraz ne fournit aucune dénomination de cette forme verbale en *ga* . . . *lin*; il ne la caractérise que par la traduction des exemples cités.

Quand on considère l'ensemble des positions, nominale et verbale, que cette forme assume, compte tenu de la structure morphologique qui est identique dans les deux cas, on discerne la fonction qu'elle remplit dans le système verbal: la forme *ga* . . . *lin* est à définir comme un *parfait*.

Nous la définissons comme forme de parfait d'après deux critères: 1) l'un est interne et oppositif. C'est la distinction fondamentale dans le verbe entre les morphèmes *nĩ* . . . *qĩn* et *ga* . . . *lin*.<sup>13</sup> Le premier constitue des formes qui, transitives ou intransitives, indiquent un *présent*, présent actuel ou prétérit indifféremment; la distinction temporelle résultant seulement de déterminants lexicaux ou contextuels. Symétriquement, la forme en *ga* . . . *lin* indique l'état acquis ou l'acte accompli; elle répond entièrement par son emploi à la fonction reconnue au *parfait*. On comprend ainsi que cette forme en *ga* . . . *lin* en proposition subordonnée soit combinée dans le même énoncé narratif avec une forme principale en *nĩ* . . . *qĩn* pour marquer l'antériorité d'un accomplissement sur un événement; type: "quand il eut fait cela (*ga* . . . *lin*), il partit (*nĩ* . . . *qĩn*)."<sup>14</sup> Cette forme de parfait, comme celle de présent, ne porte pas en elle-même de référence temporelle: selon le cas elle se rendra par un parfait présent ou par un parfait prétérit (plus-queparfait).

2) Le second indice est typologique, tout en résultant aussi d'un critère interne. On a vu que *ga* . . . *lin* en fonction non prédicative, à l'état de substantif, marque le possesseur de la notion. Il y a symétrie complète entre l'expression du possesseur et celle du

<sup>8</sup> *Op. cit.*, p. 829.

<sup>9</sup> *Op. cit.*, p. 648.

<sup>10</sup> Cette forme complexe est tirée du texte čukčĩ, *op. cit.*, p. 893.

<sup>11</sup> Formation du causatif, *op. cit.*, § 114, p. 8 19.

<sup>12</sup> *Ibid.*, p. 819.

<sup>13</sup> Voir en particulier § 73, et pour le koryak, longue liste de formes p. 674.

<sup>14</sup> *Op. cit.*, § 88.

parfait:

*ga-qaa-lin* "possesseur de rennes"; prédicatif: "il a des rennes"

*ga-lp̄nr̄i-len* "il a donné"

La forme verbale en *ga . . . lin* prédique donc l'état ou l'accomplissement comme "possession" du sujet ou de l'auteur. C'est là une caractéristique typique du parfait dans toutes les langues où il est constaté.<sup>15</sup>

La notion de parfait est ici caractérisée fonctionnellement, sans égard à la structure morphologique de la famille de langues.<sup>16</sup> On peut dire que, partout où une classe de formes occupe dans le système verbal une position comparable et répond aux critères énoncés, elle peut se définir comme *parfait*. Ce que le luorawetlan a de particulier est le double statut de la forme en *ga . . . lin*. Il est assez vain de se demander si c'est une forme nominale verbalisée, ou une forme verbale substantivée: seule la fonction syntaxique, prédicative ou non prédicative, en décide dans chaque cas, cette double possibilité d'emploi d'une même forme étant justement une caractéristique de ces langues.

ÉCOLE PRATIQUE DES HAUTES ÉTUDES, FRANCE

<sup>15</sup> Nous avons insisté ailleurs sur la liaison étroite, nécessaire, entre le parfait et l'expression de "avoir" (*Problèmes de linguistique générale*, p. 200 sq.).

<sup>16</sup> Aucune des études récentes sur le paléo-sibérien, analysées par Dean Worth, *Current Trends in Linguistics*, I, 1963, p. 345 sq., ne semble avoir donné l'interprétation que nous proposons des formes en *ga . . . lin*.

## AN ASPECT OF SUBORDINATION IN ALEUT

KNUT BERGSLAND

Within a long and dramatic period in the middle of an Aleut narrative recorded on tape at Atka in 1952 (37 minutes) one finds the following "colon," marked by a semi-final contour (the hyphens indicate the morphological analysis), after seven other ones:

- (1) . . . , *hama-n isga-rta-na-m il-a-n saka-η tana-(m) ku-ga-n higi-ti-ku-r-t-a-n*, . . .  
'when he (A) jumped down on the ground from that one he had as his place (viz. a shelf on the cliffside in a cave, described in an earlier period), . . .'

After twenty more "cola" of various length (4-33 syllables) the period comes to a whispered "full stop" as follows:

- (2) . . . , *ha'-η il-a-n anu'-sa-na-m ila-Li-ga-n tg-in ha'ra-ni-na-r hi'-sa-rta-qa- hi'-lta-za-r*. "he (A) is told to have told that he (B) stopped (fell dead) right there where he (A) threw him (B)."<sup>1</sup>

Going from the end one finds, as in nearly half of the periods of the text, a derivative in *-za-* 'usually, always, every time' (also *-da-*, *-za-da-*) of the passive of *hi'-sa-rta-* 'tell about,' "utter with temporarily," with a simple number suffix indicating a third person subject, singular *-r* (a uvular spirant), after a consonant zero (or *-ir*), dual *-g* (a velar spirant), plural *-s* (Eastern Aleut and Attuan *-n*, Eskimo *-t*). The other standard "full stop," as in the initial period of the text, is *a-rta-ku-* or *a-rta-za-ku-r*, *-g*, *-s*, a derivative of *a-* 'be' in the "present" (*-ku-*, negative *-laka-r*) which like the Turkish *imiş* "was" indicates that the speaker has not witnessed what he is telling about:

- (3) *kad-im had-a-n qawala-η-is ni'rur-is huzu-'giza-ηis tgi-dig ila-rta-l anr-ari-qali-na-s a-rta-ku-s*. 'Formerly the Fox Islanders [and] the Andreanof Islanders had all begun to live in friendship ("having each other as friends").'

If he had been a witness, the final—"main"—predicate could probably have been left out, like the corresponding initial clause in English: "It is told that . . ."

The penultimate predicate of these periods (84 out of 111 "full stops"), and the ultimate one of some of the remaining ones (9), is a "distant past" in *-na-* or *-qa-*, with a simple number suffix or, in the case of *-qa-*, a so-called possessive, i.e., referential, suffix. The latter includes a reference to an "implicit" third person complement, in (2) the implicit subject of the preceding object clause: . . . *tg-in ha'ra-ni-na-r hi'-sa-rta-qa-* "he (B) stopped himself (*tg-in*), he (A) told about him (B)," cf. the later period

<sup>1</sup> Knut Bergsland: *Aleut Dialects of Atka and Attu* (Transactions of the American Philosophical Society, New Series—Volume 49, Part 3, 1959), p. 65.

- (4) *anali-r ama amgi-r sara-na-r a-rta-na-r-tgi-dig hi'sarta-na-s hi'lartazada-s*. 'They are told to have told that they (themselves) must have slept day and night.'

Here the enclitic *tgi-dig*, the subject pronoun for the so-called fourth person plural (reflexive third person), in (3) the object of *ila-rta-l* "having as friend (companion)," constitutes an explicit subject of the object clause and conditions the following form *hi'sarta-na-s* (rather than *-qa-nis* 'they—they'), the same as the penultimate form in (3), which has no complement other than the so-called appositional or contemporative in *-l* (*anr-ari-* 'have breath, live').

Similarly, the fourth person object pronoun in *tg-in ha'ra-ni-na-r* "he (3. p.) put (-ni-) himself to a stop" conditions the final *-na-r*, rather than *-qa-* as in the following predicate. Also the latter would have had a final *-na-r* if the former had had an explicit subject term, e.g., *tayaru-r* 'the, a) man,' in the absolute case, in number agreement with *-na-r*. The subject of a form with a third person referential suffix, on the contrary, would be in the so-called relative case, simple singular *-m*, dual and plural like the absolute case, e.g., *saba'ka-m kika* (*kig-* + *-ka-*, also *kigt-qa-*) 'the dog bit him,' "present" *kigi-ku-* 'bit him (today),' *aniqudu-s su-ku-* 'the children took it,' *aniqudu-m (-s) su-ku-nis* 'the child (children) took them,' like *aniqudu-m (-s) ada-* 'the child's (children's) father,' *tayaru-m (-s) aniqudu-nis* 'the man's (men's) children.' Thus, a transitive stem is defined by the fact that it demands either a referential suffix, in reference to an implicit object, or an explicit object, in the absolute case (possibly the subject of an object clause etc.), viz. to appear as a predicate in the same form as a predicate with no complement (intransitive), cf. also the two last periods of the text:

- (5) . . . , *anrari-na-da(-)Li-r qalari-qada-ku-r. uku-rta-qali-ku-n*. 'even the surviving [population of Atka] is no more numerous. I have begun to see it.' (*-qada-* 'stop to; no more; already').

With an explicit object, here possibly the penultimate sentence with a non-final contour, the transitive predicate *uku-rta-* 'see' (*uku-* 'get the sight of, find, get') would have ended in *-ku-q*, older *-qin*, i.e., the "third person singular" *-ku-r* with an enclitic *ti-n* 'I, me,' a stem *t(g)i-* with the referential suffix (*aniqudu-n* 'my (child),' in (5) 'I—it,' cf. (4) *tgi-dig* added to the singular *sara-na-r a-rta-na-r*, final *-ku-r*, "he slept (distant past), he seems to have been." This is to say that an enclitic subject pronoun for the fourth, second and first person corresponds to an "explicit" subject term in the singular, absolute case, whereas to a third person referential suffix with a referee in the relative case correspond the referential suffixes for the other persons.<sup>2</sup>

The suffix *-qa-* with a simple number suffix or an enclitic subject pronoun, added to the singular, makes a passive, with or without a passive derivational suffix, e.g., *waLigan arasga-ruta-qa-n (-r + tin)* 'I was again brought here, one brought me back here again' (*ara-t-* 'make appear' + passive *-sga-*, with loss of the preceding *-t-*, after a vowel *-lga-*);

<sup>2</sup> Cf. my paper "Morphological Analysis and Syntactical Reconstruction in Eskimo-Aleut" in *Proceedings of the Ninth International Congress of Linguists*, Cambridge, Mass., 1962 (1964), p. 1009 f.

(6) . . . , *qaga'n ayaga' ni'rurim ila'n ayaga-ra-qa-r Laril*, . . . 'the woman of the east [which] by ("from") the Andreanof Islander [was] had as a wife (was married to . . . ) having a son' (-*ra-*, after a consonant -*a-*, i.e., *a-* 'be,' passive of -*rta-*, -*ta-* 'have as —; temporarily').

(7) *wakus matalgas li'da-s mata-qa-z-ulag*. "Like these being had ones were not had," 'One did not live like we do now' (-*ulag* enclitic negation).

The phrase preceding the final transitive *mata-* (*ma-* 'do,' *ma-t-* 'make, accomplish,' *mat-(rt)a-* 'have, possess, have the nature of—etc.') is fully explicit, viz. *li'da-s* 'like, resembling' with its explicit object *wa-ku-s mata-lga-na-s*, a passive "participle" (-*na-* rather than -*qa-* after the passive suffix -*lga-*) with a demonstrative attribute (singular *wa-n*, rel. *wa-n*, 'this one'), cf. *li'da-r tacim ukurta-rta-maz-ulag* '[anything] like it we have not yet seen' with -*maz-*, final -*mas*, 'we—it' in reference to the implicit object of the transitive object *li'da-r* 'like (it)' (no tense suffix, no "subject").<sup>3</sup>

The term "passive," however, needs qualification, cf.

(8) *ataqan tayarur ili-ni-n ari-la-qa-s, a'ta'gliga-r hi'lartada-r. tuku-nis a-na-s artaku-s*. 'One man out of them was left, called A. He was their chief.'

(9) . . . , *hama'g ilani'n anirtaqanin hadanin aygagsgakus, ayRa'si-nis ha'n arta-ku-s, su'ngidig su'ngitanis hama'g su-qa-s hi'lartaza-s*. 'when one walked from there to where they had come from, their boats that were there, equipped with their equipment (4.p. -*dig-* of the boats) were taken from there, they are told about.'

The plural suffix -*s* "they" in (8) refers to the referee of the complement *ili-ni-n* 'from them, out of them' (ablative -*n*) rather than to the explicit subject/object of the passive *ari-la-* (active *ari-sa-* 'leave'), respectively to the referee of -*n*is 'their' of the subject *tuku-nis* 'their chief' rather than to the chief, and in (9) to the referee of -*n*is in *ayRa'si-nis* 'their boats,' the subject/object of *su-qa-s* 'were taken.' Cf. *hada-ni-n huya-ku-ni-n* 'I went to them, in their (-*ni-*) direction,' with -*ni-n* 'I—them' in reference to the referee of -*ni-* (-*n* locative), but *hada-mi-n huya-ku-s* 'they (-*s*) came to me, in my (-*n*) direction,' *sunas hadamdig (hadamag) huya-ku-s* 'the ships are coming, or came (right now), towards each other,' the first, second and fourth persons being "fully explicit" in the sense defined by the difference from the third person reference; *alur-is il-a-n uku-ku-n* 'I got a letter (pl.) from him,' *ukina-r ila-ni-n aga-ti-ku-ni-n* 'I took the knife (sg.) away from them (-*ni-* -*ni-*),' but *anari-r La-ni-n il-a-n uku-na-q (-r + tin)* 'I got something from my sons' with an explicit object as well as an explicit complement and an enclitic subject pronoun; *asa- haqata-lakar-in hama* 'I do not know his name, [of] that [one],' with -(*i*)*n* 'I—him' in reference to the referee of the referential suffix of the object, to the unnamed person rather than to the name, as indicated also by the final demonstrative (no suffix), cf. *taya-ku-n wa* 'I bought it, this [one],' *haqa-lakar hi'na* 'he did not come, that [one]' (the one you are talking about or the like). In (8) the

<sup>3</sup> Translation of St. Mark 2:12 by Rev. L. Salomatov, a native of Atka, about 1860, cf. *Aleut Dialects of Atka and Attu*, pp. 6, 89.



passive suffix "subtracts" a subject (possibly in the relative case), leaving an "intransitive" predicate with an explicit object. In (9) an active subject could have been added: (*ni'rur-is*) *su-qa-nis* '(the Andreanof Islanders) took their (boats).' In the preceding clause, however, the subject of an intransitive predicate is subtracted, leaving as the subject the referee of the local complement: (*ila-ni'n ani-rta-qa-ni-(n hada-ni-n)*) *aygag-sga-ku-s* 'one walked (to where) they (had come from),' cf. *hama'ra'r-a-n kada hama'g agaku-n* 'before he (-a-) came, could come, there, I went away (him) from there' (*aga-* 'go away' intransitive, *hama'g* simple ablative of *hama*).

The "colon" (1) is marked by the final enclitic *-a'n*, *na'n* 'to or for him, her, it,' as a temporal—or possibly causal—"complement" of the following clauses, ultimately of (2), the preceding *-i*, *igin* 'he himself,' referring to the subject of the penultimate predicate *hi'sarta-qa-* 'he (A) told about him (B),' which so has nothing "passive" to it. Apart from the enclitics (1) is a potential independent sentence: . . . *higi-ti-ku-r* 'he (3. p.) jumped, made a jump, . . .' (cf. *higi-cri-* 'be jumping,' *higi-* 'throw'), but within its context is marked as subordinate also by the tense suffix *-ku-*, a "present" or immediate past only in relation to the object clause in (2). Being added to a simple singular, in the absolute case, with or without an enclitic subject pronoun, *na'n* makes a temporal or causal clause: *-ku-r-a'n* 'when he,' *-ku-q-a'n*, older *-ku-qin-a'n* 'when I' etc., plural *-ku-z-i'n*, dual *-ku-g-ikin* 'when they or we' (the pronoun *ti-mas*, old Atkan *igi-mas*, 'we, us' is not enclitic), e.g., . . . *anrarina-s qa'tu-ku-z-i'n* . . . 'as (because) the people are hungry (need, want, to eat: *qa-*) . . .' (from a small dictated text). But the referee may also be in the relative case, which makes a "local" complement, e.g., *shu-m-a'n*, in slow speech *shu-m(-)na'n*, 'for the summer, during the summer' (*shu-* 'summer, pass the summer, do in the summer; year'), *anrarina-z-i'n* 'to the people,' *anrarina-m qa'tuna-nin-i'n* 'to the hungry people' (*anrarina-m qa'tu-na-nis* 'hungry people,' *anrarina-s qa'tu-ku-s* 'the people are hungry'), cf. *na'n* 'to or for me' (in the younger generation's speech *i-mi-n*), *imis* 'to or for you,' dual *imdig*, plural *imcig*, *igi'm* 'to or for himself,' dual-plural *imag*, plural also *imcig* (Eastern Aleut *iman* or *imdin*).

To the clause (1) corresponds its local complement *haman isgartana-m il-a'n* (ablative) 'from that one he had as his place,' with the referee of *-a-* "its" in the relative case like that of *-ga-* in the following complement *saka-n tana-m ku-ga-n* "down there on the ground's (its) surface" (*saka* 'down there, out there on the sea etc.,' *-n* simple locative; *-m* in rapid speech assimilated to a following consonant). The former has a fourth person referential suffix as the subject marker (absolute case *-n*, after a consonant *-i'n* or *-in*, rel. *-i'm*), in reference to the subject of *higiti-ku-r(-i-a'n)*, but corresponds to a sentence *hama-n isga-rta-ku-r*, distant past *-na-r*, 'he has, had, that one as his place,' the object being fully explicit, cf. *hati-r shu-rta-ku-r* 'he has ten as summer(s),' 'he is ten years old,' *Irina-r asa-rta-ku-r* 'she has I. as a name, is called I.' Cf. the following potential period, actually the beginning of a small text volunteered by the former chief of the village (dictated):

- (10) *adar waLigan akura'n Nurtal, hawa-n ayaga-r ila'ta-na-ga-n qul-a-n aMaya'rta-ku-η*, 'Going to him when the priest (*ada-r* "father") was here, [when] I asked him about that woman he (*-ga-*) is living with, (because he said etc.).'

The final *-η* 'I—him' refers to the unnamed man, the implicit object also of the transitive contemporative *Nu-rta-l* "reaching temporarily" and the subject of the form in *-na-ga-n* (3. p. relative, the referee of *-a-* in *qula'n* 'about her,' ablative), derived from *il(a)-* as in *hama'g anrari-r ila-mi-η a-ku-r* 'some person is (somebody lives) by me' (*hama-g* 'from there, distant invisible or anaphoric; some, any'), cf. *anrarina-m sinig-a-n* 'from a person's interior, out of a person' and *quga-r sinig-uta-ku-r* 'he has a devil within him.'<sup>4</sup>

The suffix *-na-* may here be defined as "participial," the *-na-* of a final predicate or an object clause like that in (2) etc. having just a number suffix or an enclitic subject pronoun, and corresponds to a predicative *-ku-* rather than to a final *-na-* (distant past). To the latter corresponds a "participial" *-qa-*, indicating a distance of time from that of the superordinate predicate, e.g.,

- (11) . . . *cyatum igluqayis mata-qa-cig, arudgurta-na-s hi'lartazadas*. 'the sea otter(s) skins they (4. p.) had, they hid away, they are told about.'
- (12) *uma'g tanri-r Nu-qa-mag-ulag huzu-giza- Numigta-l hawa'g hi'sartal, tgidig haguma'sacriz-a-na-s artazakus*. 'Going on reaching every islet they had not reached before, they every time (*-za-*) had that done to themselves (were killed).' (*hagu-ma-* 'do so,' derived from the demonstrative of motion etc. *hawa;* *-sa-* 'with,' *-cri-* 'let, make; let be -d').

As shown by the penultimate predicate (*-na-s* rather than *-qa-ηis*) the transitive contemporative *Nu-mig-ta-l* 'reaching one after the other' ("repeatedly—temporarily") has a fully explicit object, viz. the preceding phrase the head of which is *huzu-giza-* "absolutely all of it," made indefinite by the initial ablative form *uma-g* 'from there, near invisible; some, any' (cf. *hama-g* above). The referee of *-* "its" is in the relative case, with a fourth person suffix (*-mag*, absol. *-dig* or *-cig*) in reference to the subject of the following predicates, and corresponds to a sentence *tanri-r Nu-na-z-ulag* 'they did not reach (any) islet' rather than *-qa-ηiz-ulag* 'they—they not,' the object of the transitive *Nu-* 'reach' being explicit: *tanri-r*, in the absolute case.

Being in the absolute case, the term preceding the "participle," *hama-n* 'that one' in (1), *hawa-n ayaga-r* 'that woman' in (10) and *tanri-r* in (12) (relative *hama-n*, *hawa-n ayaga-m*, *tanri-m*), could not easily be the direct referee of the third person suffix in *il-a-n* 'from it,' *qul-a-n* 'about her' and *huzu-giza-* 'all of it,' with which goes the relative case of the participle. In the English translation the term corresponding to the object of the simpler sentence is the head of the construction, having a "zero representation" in the following relative clause, as a variant of the relative pronoun *which* (or *that*): (*from*) *that one he had* [that one] *as his place, (about) that woman he is living with* [that woman], (*every one of*) *the islet they had not reached* [the islet] *before, the sea otter skins*

<sup>4</sup> St. John 10:20, Salomatonov.

they had [the sea otter skins]. In Aleut there are of course no relative pronouns. But the question is whether there is any syntactical reversion in relation to the simpler sentence as in English, marked by the inversion of the terms, or, for example, in Turkish, where the "relative participle" is an attribute of the term corresponding to the object of the simpler sentence, e.g., *gönder-diğ-i mektup* 'the letter (which) he sent' (-i "possessive" 3.p. sg.) vs. *mektup gönder-di* 'he sent a letter.'<sup>5</sup> In Aleut there is no such inversion, the apparent difference from a sentence or a clause being the selection of *-na-m ila'n* rather than *-ku-r-t-a'n* etc.

All by itself the "participle" corresponds to a sentence of the "referential" type: *isga-rta-ku-* 'he has it as his place,' *ila'ta-ku-* 'he lives with her, has her by him,' *mata-qa-ηis* 'they had them,' *Nu-qa-ηiz-ulag* 'they did not reach it,' cf. *ma-qa-cig ma-qada-na-s* 'they stopped doing what they (4. p.) had done, their lives were changed,' *tayaru-m ηus hirta-na-ηis haqata-lakaq* (-lakaq + *tiη*) 'I do not understand ("know") what the man is saying to me,' *hirta-na-ηis tuta-lakaq-iη* 'I do not understand ("hear him") what he is saying.' Here the forms in *-qa-* and *-na-* are "participial" in the sense that there is no reference to their "object" in the superordinate predicate as, for example, in a sentence like *aniqdu-m su-ku-'n uqid-usa-du'ka-lakar-a* 'the child [when/as] it (4. p.) took it, will not return with it (-a).' The final *-(i)η* 'I—him' refers to the implicit "subject" of *hirta-na-ηis* (sentence: *hirta-ku-ηis* 'he says, utters, them,' 'says it'), as in *asa- haqata-lakaq-iη hama* 'I do not know his name, [of] that [one].'

A sentence of the latter type is "participialized" in the following instruction given by the native priest L. Salomatov in an Aleut primer adapted from some Russian original about 1860:

(13) *Háman Šjana'dar, asà' asartanámis hádan umamátal kamgálig [h]laru'dazada: . . .*

'To that saint the name of which you have as a name in this way ("doing so, as follows") pray and implore': (-*da* imperative 2. p. sg.).<sup>6</sup>

The phrase ending with *hadan* 'to him/her' goes with the contemporative form *kamgálig* 'praying,' which has the same temporal and modal force as the final predicate, cf. *ibid. hadamis kamgakuq* 'I pray to you,' changed into *Tgin [h]laru'dakuq* 'I implore you.' The participle, in the relative case (*-na-mis*, absol. *-na-'n*), has an object in the absolute case: *asa-* 'his/her name,' but the referee of the latter is also in the absolute case: *hama-n šjana'da-r* 'that saint' ("like an object of tabu": *šja-na-da-*). If it had been in the relative case, the referee of *hadan* would have been of the type (1), (10), (12), corresponding to a simple sentence *hama-'n šjana'da-m asa- asa-rta-ku-r-t* 'that saint's name you have as name.' But then the Aleut youth would have been instructed to pray to the name of their namesake rather than to their respective saints.

If in (13) the participial part of the construction corresponds to a "referential" sentence, the whole referee of *hadan* corresponds to a "period" of the type *itraygi-r cña- usa-ku-r*

<sup>5</sup> J.L. Lewis: *Teach Yourself Turkish* (1953), p. 99.

<sup>6</sup> Ms., cf. *Aleut Dialects of Atka and Attu*, p. 7.

"the reindeer, its fur is coming off," 'the reindeer is shedding its fur,' where the initial term, in the absolute case, is the referee of the suffix of the subject of the predicate clause, different from a simple sentence *itraygi-m cqa- usa-ku-r* "the reindeer's fur is coming off." Cf. *igasi-nis ya'gi-lakar-is igarta-ku-s* "their (3. p.) wings do not move [but] they fly," 'they fly without their wings moving,' vs. *igasi-dig ya'gi-cri-lakar-is igarta-ku-s* "their (4. p.) wings they do not make move [but] they fly," 'they fly without moving their wings';

- (14) *alitgum tayaruga-n ila- su-lga-ku-r qacr-a ila- sasgaruta-lga-l su-lga-da-r-ulag hi-lartadar* "some man of war [who/when] was taken, his skin, part of it, being left whole was usually not taken, is told about," 'one never let the skin of a prisoner intact,' an intercalated explanation of a preceding clause *tani-dig igluqa- isi-lga-l . . .* "their (4. p. absol.) forehead, its skin, being cut (they . . .).'

The subject/object of the second as well as of the first passive form *su-lga-* is *alitgu-m tayaruga-n ila-* "part of (one of the kind) man of war," 'some warrior,' an "explicit" subordinative phrase. The subject/object of the intervening contemporative is *qacr-a ila-* "his (3. p.) skin, its part (partly)," a phrase like *tani-dig igluqa-* and the whole period (14), the negation *-ulag* going also with the contemporative: otherwise one would not have taken prisoner an enemy with an intact skin, just already wounded ones. If the second *ila-* were the head of the construction in the same sense as the first one, "a piece of the skin of a prisoner" would have been "not taken intact," the reverse of the actual meaning of (14).

The subject of a "period" may also be the local complement of the predicate clause, cf. (8-9) and

- (15) *qiku-n sigsi-r ilan anaris haru-lga-l, huzuga'n ilan anrari-lga-qa-r hi-lartada-r, uma.* "That portage in here, at it things being packed, always at it was lived (some lived) is told about, that' (scil. the portage in here: *qiku-n*, near invisible: *uma*).

Here the subject of the predicate clause is "subtracted" by the passive suffix *-lga-*. In (9) *ila-ni-n anji-rta-qa-nin hada-ni-n aygag-sga-ku-s* "one walked to those they had come, started, from" a clause of this type is "participialized" and the subject of the superordinate predicate "subtracted" by the passive suffix *-sga-* "one." In the active there would have been reference to the "implicit" subject of the participle (*-ni-* "they"): *aygagi-ku-nis* "they (A) walked . . . them (B)," but not to the referee of *ila-ni-n* "from them" (the places), cf.

- (16) *anrarina'da-m il [an] quyuri-na-ga-n hadan qanu-na-r.* 'He went in to where the damsel was lying.'
- (17) . . . , *agita'da-m ulu-ga-n ilan acigi ('ran) + arta-na-ga-n ilan ha'η tata'm acigi'ruta-ku-r*, . . . where his (4. p., Y's) fellow's body had tumbled a while ago (intentional + *arta-*) there (simple locative of *hawa*) again he (Y) tumbled in turn, (A saw etc.).'
- (18) . . . , *uma'g ilan ada'ra-na-mag huzu-ga-n ilan ada'ra-l a'ra-ku-s, tadutgari-na-z-*

<sup>7</sup> St. Mark 5:40, Salomatov.

*ulag hi'lartazadas.* 'everywhere they (4. p.) landed landing they did in vain [and], did not make a surprise, are told about.'

In (16-17) the subject of the participle is in the relative case, as in a corresponding independent sentence: *aniqdu-m sitg-a-n uquci-ku-* 'the child is sitting under it' (scil., the table). But to the third person suffix of its complement *il-a-n* (the first one) there is no reference in the superordinate predicate: *qanu-na-r, acigi-ruta-ku-r, tadut-gari-na-z-ulag*, a transitive *tadut-* 'surprise' intransitivized by *-ga-ri-*, after a vowel *-qa-ri-(-ri-* 'have').

In (2) the complement of the object clause *tgin ha'rani-na-r* "he (B) stopped himself," *ha'ŋ ilan anu'sa-na-m ilaLi-ga-n* 'there, right there where he (A) threw him (B),' has a fourth person reference (*-m*) to the subject of the penultimate predicate *hi'sarta-qa-* 'he (A) told about him (B),' the object of the transitive participle *anu'sa-na-* (*anu-* 'flow; throw,' *-sa-* 'with') being the subject of the object clause, and corresponds to a sentence *il-a-n anu'sa-ku-* "he (A) threw him (B) at it (C)," cf. *qugana-r anu'sa-ku- pula'tgim haqada' agi-ku-r* 'the rock he threw passed [over] the top of the tent' vs. *qugana-r anu'sa-ku-r* 'he threw the (or a) rock,' *tayaru-r anrarina-s tunurta'sa-ku- tgin haqata-lakar* "the man, people are talking about him, himself does not know," 'the man does not know that people are talking about him.' To the subject *anrarina-s* (relative = absolute case) corresponds the subject of the penultimate predicate in (2) (A), to the preceding subject *tayaru-r*, in the absolute case, the *tayaru-r* 'man' (B) found at the beginning of the period, four "cola" before (1).

The participial constructions in (2) and (16-18), one may say, correspond to relative clauses in English: *ilan -na- il-a-n* "where . . .," as also the subject/object in

(19) . . . , *hawan hadana* ('ran) + *aq-a-dig agac(a) idara-lakar-a'n mal, hawan hada-n ag-s ulriqali*('ran) + *arta-ku-r*, . . . 'because (*-a'n ma-l* "as, doing") that direction where they (4. p., A + X) would be only was known [to B,] that direction of his (4. p., A's) passing he/who (B) had just begun to come in, (A did so and so).' (*ida-ra-* passive of *ida-rta-* "be ignorant of," only with a negation: 'know').

The second *hawa-n* 'that (one)' is the attribute of *hada-n* 'his (4. p.) direction,' the object of *ag-s* 'passing,' the first one of the participial phrase *hadan a(ran) + aq-a-dig*, to which corresponds a sentence *had-a-n a(ran) ari-ku-nis* or *aq-a-nis (ar- + -qa-)* "they are going to be in its direction" (intentional + *ar-* "put," *-ku-*: 'in a moment,' *-na/-qa-* 'later'), cf. *hada-ni-n huya-ku-ni-n* 'I went to them' etc. What makes a "participle," then, is simply the selection of *-na-* or *-qa-* rather than *-ku-* or *-qa-* with a referential suffix and, possibly, the selection of a fourth person suffix rather than a first or second person one or a third person suffix with a referee in the relative case, even though the same is true of (1) . . . *-ku-r-t-a'n*, (4) *-na-r-tgidig hi'sarta-na-s*, and the like. This is to say that also a final "referential" sentence, or periods such as (8-9), is a "relative clause," the "reverse" of an English "main clause," and so in need of no reversion to become the equivalent of an English relative clause, or of a Turkish "relative participle."

As the case relations show, however, the referee of an Aleut "relative participle,"

a transitive one or a participle with a third person complement etc., is not the "head" of the construction as in English or Turkish but rather its "subject," as in periods such as (15) or *qa-r anrari-m su-ku-* "the fish, the person took it" (Eastern Aleut),<sup>8</sup> *waku-s tin imci hirta-ku-niŋ* "these (facts) I said them to you."<sup>9</sup> Here the intervening subject in the relative case, respectively the additional *tin* 'I' (no case distinction), apparently is the condition for the initial term having a suffixal reference in the final predicate, the difference from the version *anrari-r qa-r su-ku-r* 'the person took the (or a) fish' being one of emphasis or point of view. In a larger period the "point of view" is the relation to the following clause, a possible object possibly "becoming" a subject or another term of a following clause by the selection of the suffixes of the would-be predicate. In the following period, the initial one of a small text volunteered by the former chief, the initial term is formally the object of the immediately following transitive forms, having a fourth person referential suffix in reference to the subject of the latter (in a final predicate marked by a number suffix), and then actually "turns" into a subject of the final intransitive clause:

- (20) *mʹznika-n aqis ayugcris hadaʹkuta-l aʹlurta-qa- a-ku-m*, (b) *pʹusa-yi-l-ka slarurulag aguʹrtar hirtal ayugcri-qa- a-ku-m*, (c) *wan qilar tata-m haqal filiʹp aʹli-sigan ilan cala-rutal qilarsi-r*. "His (4. p.) privy removing, sending off, looking after, he smiled it (which, was [and], (b) saying good-by to it (-ka), good weather ("not-storm") it would be ("make") saying, he sent off it (which) was [and], (c) this morning again coming, at Philip's landing place drifting ashore in turn it did in the morning."

The intransitive *aʹlurta-* 'smile' gets its "transitive" force from the preceding transitive *ayugcris*, repeated as the "penultimate predicate" in (b), whereas the ultimate "indicative" *a-ku-m*, in the relative case, leads to the final -r as in a simple period like *agita-dan akum haqa-ku-r* "my friend is [and] is coming," 'it is my friend who is coming.'

The "version" of the predicate, however, also depends upon the presence or absence of a preceding explicit term, for example a possible object, as in the following translations from English (by the son of the former chief, with his father's fuller forms in parentheses):

- (21) He usually does as I tell him. *anari-s ma-rt(a-r) ŋaʹn hirta-na-ŋ ma-li-za-r* "something [that] he may do to him which I tell usually just does."

- (22) He does what I have told him. *ma-qa-t i(gi)-m hirta-qa-niŋ ma-za-r* "what (pl.) he (4. p.) may do to himself which (pl.) I have said usually does."

The plural object *anari-s* 'something' (*a-na-* 'being; something, anything; was etc.,' -*ri-* 'have') conditions the simple optative form *ma-rt-a-r* 'he may do,' cf. *haqa-rt-a-r* 'he may come,' and accordingly the following -*ŋ* 'I—him (which)' refers only to its subject and the referee of *ŋaʹn* 'to him' as also in a final predicate *hirta-ku-ŋ* 'I tell him . . .' Without an explicit object the initial predicate of the simpler period would be *ma-qa-*

<sup>8</sup> Waldemar Jochelson: "Zametki o foneticheskikh i strukturnykh osnovakh aleutskago yazyka" in *Izvestiya Rossiyskoy Akademii Nauk*, 1912, p. 1044.

<sup>9</sup> St. John 15:11, Salomatonov.

*ŋis* 'he may do them,' cf. *hiŋa'g aga'sa-qa-ŋis ŋa'n hirta-qa-niŋ* 'I told him to take them away from there' (*aga'sa-* 'go away with'), *aniqdu-m su-laga-qa-ŋis ŋa'n hirta-qa-niŋ* 'the child may not take them, to it I told them,' with the final *-niŋ* 'I—them' in reference to the implicit object of the initial predicate in *-ŋis* '(X)—them.' In (22) the initial optative has the corresponding fourth person suffix *-t(ŋin)* 'he himself—them; his own several,' the subject being the same as that of the final predicate *ma-za-r*, the suffix of which (*-r* rather than *-ŋis*) defines the former as a "participle," cf. *igi'm hirta-na-niŋ ma-ku-r* 'he does (or did) what I tell him' with an object corresponding to the sentence *ŋa'n hirta-ku-niŋ* 'I said them (i.e., it) to him.'

As seen from the examples, the initial object also conditions the selection of the third person complement *ŋa'n* 'to him,' rather than *igi'm* 'to himself,' of the following "participle," as also in

- (23) *qa-s ŋi'n ar-na-niŋ su-ku-s*. 'They took the fish I gave them.' (translated from English in 1950 by a young informant, b. 1927, and checked in 1952 by the former chief, b. 1882).

If in the English version the object has a "zero representation" in the following relative clause: *they took the fish I gave them* [the fish], in the Aleut version it has it in the main, final, clause: *qas ŋi'n arnanin* [qas] *sukus*, cf., for example, *qa-lga-da-s ilga-l la-gu-mag haqa'sa-za-ku-s* 'when (*-gu-*) they (4. p.) hunt and get something to eat (pl.), they always come with (i.e., bring it back to the village for distribution).' Without the initial term the final predicate would have contained a suffixal reference to it: *-ku-ŋis* 'they—them.' In (23) the final predicate would probably get a direct object: *imag ar-na-niŋ* 'what (pl.) I gave to themselves,' cf. *igi'm hirta-na-niŋ ma-ku-r* above. In the latter, as in (22), the phrase preceding the final predicate is a formal object, as shown by the fourth person reference, the same as in a simple sentence such as *tayaru-s tana-dig imag hagma-ya-qali-za-ku-s* '(in spring) the men usually begin to make clean for themselves (to clean up) their (4. p.) places' (from a small text dictated by the former chief). In (21) and (23) it rather is the "subject," as shown by the third person reference (*ŋa'n*, *ŋi'n*), the same as in (8-9) etc.

The sentence (22), one may say, has essentially the same structure as the English version of (23), in the inverse order: [(*ma'qat*) *igi'm hirtaqaniŋ*] *mazar*, *they took* [the fish (I gave them)]. The fourth person pronoun *igi'm* "to himself" does not of course belong to the "innermost layer," as the corresponding Turkish one in (23): [(*kendilere verdiğim*) *balıkları*] *aldılar* "to themselves which I gave the fish (acc.) they took", also the inverse of the English sentence. But the difference is essentially one of order, like the order of the elements between the subject *tayaru-s* and the final *-ku-s* in the just-mentioned simple sentence. The sentence (23), one may say, is a combination of two independent sentences: *qas ŋi'n arl-ku-niŋ* 'I gave them the fish,' with the final suffix in reference to the referee of the complement rather than to the explicit object, and *qas su-ku-s* 'they took the fish,' with no such reference, Turkish *on-lar-a balık-lar-ı ver-di-m*, (*on-lar*) *balıkları al-dı-lar*, also the inverse order of the English one. But

whereas in Turkish and English the "combination" of the two sentences implies a syntactical reversion of the "subordinated" one, in Aleut one comes to (23) simply by substituting the "participial" *-na-* for the "indicative" *-ku-*, the simple sentence being already the reverse of the English one.

Viewed from the end, "from top down" in terms of the now fashionable "derivation" from an "NP—VP" or the like, an Aleut period such as . . . (1) . . . (2) makes a terrific "left-branching," the inverse of an English "right-branching"—almost incomprehensible as a translation of the Aleut period. Taken in the order of production, as from a tape recording, it makes another "right-branching," the reverse of the English one, some sort of a "running superordination" stated in terms of the syntactical relations, marked by the suffix relations rather than by "parts of speech." As noted above, the penultimate predicate of (2) was "foreseen" from the beginning of the period, its object being A's report, as marked by the fourth person reference, and the relative case, which is subordinative in relation to what follows, makes another "prolepsis." But the absolute case is non-subordinative, and the third person reference, which also runs through the period, is the reverse of the other one, "epileptic" like an English relative pronoun rather than a grammatical person comparable with the first and second one. This is of course not to impute upon the speakers of Aleut an "epileptic" turn of mind. The question simply is whether the "proleptic" turn "from top down" on the paper could be a piece of "Standard Western European squinting grammar" rather than a linguistic universal.

UNIVERSITY OF OSLO, NORWAY



# THE COMMON NAME AND THE PROPER NAME

ERIC BUYSENS

Grammatical notions are not much studied nowadays; the preference goes to phonological notions, where the structuralist finds an obvious structure. Before this our structuralistic era we had the reign of logic; much damage was done to synchronic linguistics through the adoption of that foreign point of view. In the present article our aim is to determine the opposition between common name and proper name by comparing it with other oppositions serving the same purpose.<sup>1</sup>

The Greeks called the proper name *onoma kyrion*, that is, the name that is pre-eminently a name, the word that best deserves to be called a name. The Romans translated it by *nomen proprium*, the name reserved to one individual. With both Greeks and Romans, the conception of the proper name was based on the logical considerations of extension and comprehension (or intension). We find an echo of them in Sweet's *New English Grammar*:

Thus the name *Plato* implies all the characteristics—personal attributes, actions, feelings, thoughts, writings, etc.—that distinguish the man Plato from all other men. It is, therefore, incorrect to say that proper names are devoid of meaning. On the contrary, they have more meaning than common words through being more highly specialized. (§163)

In this passage Sweet was forgetting what he had written a moment before, namely that the same proper name can be given to different individuals, thereby reducing its meaning to very little: "male human being" or "female human being," to use Sweet's own words.

When protesting against those who claim that a proper name has no meaning, Sweet was obviously thinking of John Stuart Mill, who had written in 1843:

Proper nouns have strictly no meaning; they are marks for individual objects. (*System of Logic*, I, ii, §2)

The word *strictly* means that the meaning which a proper name may have has nothing to do with its being a proper name. Mill was right. A name like *United States of America* has a clear meaning: states that are united and that are situated in America. But the United States of Mexico and the United States of Brazil are also constituted by states that are united and situated in America; yet they do not call themselves

---

<sup>1</sup> We had not thought of that approach in our article "Du nom propre et du nom commun," published in *Neophilologus*, 1936, pp. 111-121.

*United States of America* because meaning is not the basis for the use of the proper name.

That is a negative consideration. Mill tried to be positive: he opposed the two sorts of names by resorting to the notions of denotation and connotation. According to him, a proper name does nothing but denote, it designates an individual; the common name denotes and connotes, i.e. refers to certain characteristics of the individual. For instance, in the sentence *A man stopped before the house*, the common name *man* denotes an individual as opposed to all other individuals of the same class, but it also tells us something about the characteristics common to all the individuals of that class.

But this opposition is not so definite. When we say *John stopped before the house*, we oppose a certain individual to all others of the same class, and we imply that this individual belongs to a class with others: it is a man, not a woman. The opposition between the two names is quantitative, not qualitative if we consider the meaning, as logicians do. But we must also observe that *John, Robert, James, Henry* have the same connotation: male human being; therefore their connotation cannot be used to oppose them.

If we want to obtain positive data, we must leave the logical point of view for the linguistic one—better still—for the semiological point of view. The fundamental problem is: how can any sign (word, number, letter, etc.) designate a particular individual?

Not long ago, Sir Alan Gardiner came forward with the following answer:

A proper name is a word or group of words recognized as indicating or tending to indicate the object or objects to which it refers by virtue of its distinctive sound alone, without regard to any meaning possessed by that sound from the start, or acquired by it through association with the said object or objects.<sup>2</sup>

We can consider meaning as the virtue of sound, but what other virtue can sound have? By itself it has no virtue.

The problem is not restricted to proper names, for there are many things for which no proper names exist, and yet we can designate them individually if we like: we use figures or letters for the rooms in a building, for railway-carriages, motor-cars and planes, for soldiers and prisoners, for pages, sections and chapters in a book, for the hours of the day, for the days in a month, for the years in an era. When we want to rebuild a monument in another place, we identify its stones by means of letters or figures. Colours are also used: the electric wires in a building are of different colours to avoid confusions in the installation.

In all these cases we find the same practice: a particular sign is attached to a particular object to oppose it to the other objects of the same group, but in another group the same sign can be attached to another individual object. The numbers formed by the figures have a meaning, of course, and it allows us to place the objects in a certain

<sup>2</sup> *The Theory of Proper Names*, Oxford 1954, p. 43.

order; but the colours and the letters have no meaning.<sup>3</sup>

The dominant principle in all these facts is an agreement limited to one individual object. This agreement is so customary that we are hardly conscious of it. But if we turn towards the proper names we notice that it is formally organized: a friend comes to us with an unknown man and says *May I introduce to you my friend John?* Or he takes us to his native village and says *This is Oakfield*. The introduction is the social act that links a certain name to a certain individual; it institutes an agreement, a convention, which is limited to that particular individual.

Any convention supposes a group of locutors; the convention concerns that group only: in another group of locutors it is possible to say *May I introduce to you my friend John?* in the presence of another individual. This social event, which is the basis for the use of the proper name, is sometimes called baptism: when a child is born, relatives and friends are gathered and a convention is adopted concerning the name that will be used to designate that child in that group of locutors. Ships, streets, towns, countries, etc. are also baptized; the ritual varies, of course.

A common name is also based on a convention: it is agreed, for instance, that the word *house* designates a certain object, and this convention is peculiar to the English-speaking community. But this convention is not limited to one individual at a time: when I see another house, people need not tell me that I may call it *house*. On the contrary, for each additional individual to be called *John* an additional convention restricted to that individual must be obtained.

Our conclusion is as follows. The use of the common name for an additional individual is completely determined by the meaning of the name: once the name is associated to a certain meaning, we can freely apply that name to any individual showing the characteristics implied by that meaning. The extension of a proper name to an additional individual is determined by a convention peculiar to that individual, but in accordance with the meaning if there is one: a proper name that has formerly been used for men only cannot be used for women, unless a new convention modifies the meaning.

In that way we obtain a clear, qualitative opposition between proper and common names. But that does not mean that all nouns have been accounted for: many grammarians are puzzled by a few nouns that designate things that stand alone, that do not belong to a class of similar things: *paradise, hell, earth, universe, nature*, etc. Since they designate individual things, are they not to be regarded as proper names; but why then are they not written with a capital? The answer is that such nouns are neither common nor proper names, for proper names as well as common names are used to oppose one individual to the other individuals of the same group. No technical term has been coined for words such as *universe*; we could call them unique names.

UNIVERSITÉ LIBRE DE BRUXELLES, BELGIQUE

<sup>3</sup> The order of the letter in the alphabet is not based on meaning.

# THE SEMIREGULARIZATION OF ENGLISH SPELLING

DENZEL CARR

## I. PRELIMINARY

Professor Shirô/Sirô Hattori has long been interested both in the traditional and in more rational means of written representation of his mother tongue and several of the foreign languages he has studied. A comparable interest has absorbed some of my attention since 1914, when I first studied foreign languages (Esperanto, German, and Hebrew). Although this subject is practically taboo among American linguists because of the great number of linguistically untrained faddists it attracts, it is worthy of reëxamination from time to time in the light of new theories, but even more on the basis of other nations' experience with the problem.

A thorough acquaintance with Professor Axel Wijk's *Regularized English* (Stockholm: Almqvist and Wiksell, 1959) and Professor Martin Joos's review-article in *LANGUAGE*, Vol. 36, No. 2 (Part 1) (1960) is assumed for purposes of this study. Access to the rules and recommendations of the Philological Society of England and the American Philological Association (1883), the [American] Simplified Spelling Board (1906, 1913, and later), and to the books of the [British] Simplified Spelling Society would be a desirable adjunct to this discussion.

A strict line between spelling reform and spelling simplification is hard to draw. ('Spelling revolution' often involves a change from one alphabet to another and it need not be considered here.) Except in a revolutionary situation even spelling reform is exceedingly difficult to effect, for it is perfectly natural for people to resent tampering with their national orthography. Spelling reform is much more systematic than simplification. Spelling reform usually has principles that are easier to grasp, but it also involves far more changes in the *Wortbild* and means more disturbance of the already acquired skill in writing the mother tongue. Spelling simplification usually changes the *Wortbild* less, but the writer must hesitate longer in deciding on the applicability of approved rules in specific cases. Both terms have come in for so much opprobrium that I believe it desirable to avoid them. What the English language needs as a first step by the 1983 centennial date at the latest is a well-thought-out plan for regularization of our current spelling (as suggested by Professor Axel Wijk) or semiregularization along the general lines proposed here. Any individual system

(devised by Wijk, Carr, or others) is bound to reflect individual orthographic philosophy and experience, not to mention predilections or prejudices. Professor Wijk has rendered us all a major service by his thorough study of present practice. I trust that the proposals here made will tend to lead to thorough discussion of the principles, the problems, and the practicalities of his work and mine and that of all our predecessors.

## II. PRINCIPLES OF SEMIREGULARIZATION

1. No non-roman alphabet shall be used.
2. No letters shall be introduced that are not now familiar to readers of European languages in their present orthographies: ѿ, м, ε, α, η, j, ſ, 3, 9, λ, μ, τ, δ
3. A minimum of diacritics should be used, but the wide use of digraphs will necessarily involve some diacritics, especially the dieresis (¨) and the apostrophe (') as separators: *dië't*, *bar'ing* (barring) to distinguish it from *baring* (baring < bare), *zoölogy*.
4. A multinational use of English as a mother tongue and official or lingua franca status in many of the newly sovereign, multilingual nations of Asia and Africa impose diaphonic (Jonesian sense) rather than narrowly phonetic or phonemic spelling on the English-using world: *farm* (with *r*), *often* (with *t*), *take* (regardless of the pronunciations found).
5. Preserve present well-established spelling habits so long as they do not conflict with other major rules listed here or do not cause ambiguity in practice: *rode*, *road*, *rowd* (rowed, of a boat); *so*, *soe* (sew), *sow* (grain); *laud*, *law*; *feud*, *few*; *staid*, *stay*; *rén* (rein), *rein* (reign), *they*; *join*, *toy*.
6. A limited number of words (well under 50) found in the 500 words of highest frequency (with a few in the next 500) and particularly among the 50 commonest words in the language may safely retain their present anomalous spellings to avoid disturbing unduly the writer during his transition from current spelling to SRS: *by*, *hour*, *if* (not *iff*), *into*, *my*, *myself*, *of*, *once*, *one*, *sure* (*insurance*, *assurance*, etc.), *this* (not *thiss*), *thus* (not *thuss*), *to*, *today*, *together*, *two* (because of *twin*, *twain*, *twenty*, *twelv* (twelve), *twiliet* (twilight), *between*, *betwixt*, etc.), *us* (not *uss*), *very* (not *verry*), *water* (not B. *wauter*, A. *watter*!), *who*, *whom*, *whos* (*e* may be dropped and apostrophe avoided as in *yoors*, *his*, *hers*, *ours*, *theirs*), *why*, *England*, *English*, *sugar* (or *shoogar*?), *tomorrow*, and others. The others under *A* such as *abuv* (above), *aul* (all), *aulmost* (almost), *aulreddy* (already), *aulso* (also), *aulways* (always), *amung* (among), *anuther* (another), *anser* (answer), *emny* (any), *ar* (are), etc. can be made to conform to the rules without difficulty. Similarly under the other 25 letters.
7. Personal names (first, middle, and surnames) should be exempted from the application of all these rules except as approved by the individual or family concerned. Mr. *Foxx* may continue his exotic spelling as may Mrs. *Taliaferro*. An individual could always regularize (and legalize) the new form when he saw fit: *Fox*, *Tolliver*.
8. Prominent geographic names, however, should in general be semiregularized: *Lòndon*, *Switserland*, *The Haeg*, *Caembrige*, *Moscow/Moscou* (according to pronuncia-

tion), *Cracow/Cracou/Craacow/Craacou*, *Çhicaago*, *Munik/Munic* (?), *Praag/Praeg*, *New Jersy*, *Marseils*, *Genoă*, *Milan/Millan/Milaano*, *Demoin* (Des Moines), *Tokyo*, *Peking*.

9. The following consonants or digraphs are used with their regular values: *b, d, f, h, j, k, l, m, n, p, q(u), rh, sh, t, v, w, y, zh*.

10. The following are used with two or more values: *c, ch, (çh, c'h), g (g', ĝ or ġ), ng (/ŋ/, /ŋg/, /ŋj/), ph, s, th, wh, x, z*.

*C* has the value of /s/ before *e, i*, and *y*, /ʃ/ before *i*+vowel in unstressed syllables, /k/ in other positions: *cell, city, Cyprus; facial, politician, efficient* (i with omissible grave accent to show that *ie* is not /ai/), *suspicion, specious; maniac, politics, closet*.

*Ch* has its usual value, but when pronounced /ʃ/ it should be written *çh*: *çheff* (chef), *maçhiin* (machine), *pastiçh* (pastiche), *panaçh/panaaçh* (panache).

The other main value of *ch* is /k/. It should be written *c'h* in books for beginners and foreigners. The "separator" might safely be omitted except in dictionaries for guidance in pronunciation: *c'hrome/chrome*; *c'hronicle/chronicle*; *C'hloë/Chloë*; *stomac'hic/stomachic* (<stòmac'h/stòmach).

*G* represents both /j/ and /g/ before *e, i*, and *y*. In books for beginners and foreigners /g/ and /ŋ/ in these positions would be written *g'* or *ng'*: *g'et/get, g'iv/giv* (give), *slang'y/slangy* (but *mangy*), *pedagog'ism/pedagogism*, B. *pedagog'y/A.*, B. *pedagogy*.

*Ng* retains the two values of modern English: /ŋ/ *singer*, /ŋg/ *finger*, and also /ŋj/ *singer* (or *singe'r*) 'one who sings.'

*Ph* in words of Greek origin is retained: *philosophy*, with *p'h* in *strap'hanger/strap-hanger, sheep'herder/sheepherder*. *Ph* is also found in words from Classical Hebrew: *Raphaël, ephod, Ephraïm*.

*R* in prevocalic position is pronounced everywhere. In preconsonantal and final position it varies from dialect to dialect. SRS (Semiregularized Spelling) would retain it in all positions: *ray, pray, tray; narrow, ferry, spirit, sorrow, burro/bùrro* (burro; pack donkey); *burrow*; B. *burra/A. burro/bòro* (borough).—Preconsonantal *r*: *curnel* (colonel), *dark, kernel, quirk, fork, work, eard* (eared), *hoard, horde, hored* (whored), *conjurd* (conjured), *conjured, Turk*, etc.

The Greek-derived *rh* is retained at this stage only because it is proposed to retain *ph, c'h/ch, y, pn-, ps-, mn-* when *f, k, i, n-, s-, n-* would be adequate to represent the sounds. All these should be changed simultaneously at a later date. *Rhinoceros, rheostat; Pyrrhic; catarrh, myrrh*. Despite its Latin origin (Rhenus) the name of the Rhine should probably be changed to *Rine*. *Rhyme* and *rime* might be kept as alternate spellings because of the doubt as to the etymology.

*S* has two primary values, /s/ and /z/, and two secondary values, /ʃ/ and /ž/. A double *s* is simplified if the value is /z/ or /ž/.

/s/: *simplifïe* (simplify), *singe, state, spell; assess, possess* (possess);

/z/: *rose, dus* (does), *possess* (possess), *givs* (gives), *roses, days*;

/ʃ/: *session, fission, fissure*, B. *Persian*; (also -tion: B. *equation*)

/ʒ/: *decision, rescision* (rescission), *plesure* (pleasure); A. *Persian*;

(also *-tion* in a few cases such as *equation* in American pronunciation. The respelling \**equasion* seems uncalled for.)

*Wh* is voiceless in a large part of the United States and in parts of Britain, while *w* is voiced everywhere: *whine* and *wine*; *whale* and *wail*; *while* and *wile*; *whir* (whir, whirr) and *wer* (were); *whit* and *wit*; *white* and *wiet* (wight); *whither* and *wither*; *why* and *wy* (the name of the letter *Y*); *when* and *wen*; *whare* (where) and *ware* or *waer* (wear); *Whylè* (Whye) and *wily* are distinguished as in current spelling. (See 6 for anomalous *wh* in *who, whom, whos* (whose).)

*X* may be retained without change even though it does represent five pronunciations: /ks/, /gz/, /z/, /kʃ/, and /gʒ/. The distributional rules are simple and would have to be learned by foreign students. *X* is a convenient cover-all orthographic formula that would permit retention of such spellings as *Xenophon, Xerox, extra, exact, anxious*, and *luxurious* and yet leave freedom for some variety in pronunciation.

*Z* before *i* or *u* in unstressed syllables has an alternate pronunciation of /ʒ/ in such words as *crozier, azure, seazure* (seizure). This is the same sound as we now tend to represent by *zh* in foreign words or names: *Zhivaago* (Zhivago), *Zhdaanov* (Zhdanov), *Dzhuugaashvili*/Dzhúgáshvili (Dzhugashvili = Stalin), *Voronezh*.

11. The current traditional basic system of the so-called long and short vowels (*a, e, i, o, u*) in stressed syllables must be retained: *fat, fate; met, mete; sit, site; dot, dote; cut, cute*. Even certain doublets can be taken care of under this rule: *ration* (both pronunciations) vs. *rational; nation* vs. *national; patent* (both pronunciations).

12. Wherever possible without ambiguity the so-called 'long' vowels under stress should retain their numerous present spellings.

*A* before *o* or in stressed syllabic-final position, *a-e, ae, ai/ay, ei/ey, é: c'haos/chaos, Mamy* (Mamie), *fate, maelstrom, faint, fay, weit* (weight), *wey* (weigh), *attaché* (attaché).

*E* before *o* or in stressed syllabic-final position, *e-e, ea, ee, è* (where *e* might be interpreted as serving only to 'lengthen' another vowel), *ii/f: neon, me, B. eesthete/A. esthete* (aesthete/esthete), *meat, kea* (quay), *kee* (key), *feet, hyperbolè, cappercailyè/cappercailyz* (capercaillie), *anemonè* (anemone), *cadre* (cadre) (when so pronounced), *ephemeridès* (ephemerides), *mii/mí* (mi Mus.), *monsiinior* (monsignor), *magaziin* (magazine).

*I* before *a, i, o, or u* in syllabic-final position, *i-e, ie: diagnosis, iamb, ion, lion, Pius, hi* (hi!), *pi* (Math.), *alveoli, alumni, Magi, rite* (rite, write), *niet* (knight), *nite* (night), *allie* (ally), *allies, die, crie* (cry), *cries, cried, crieing* (crying), *bie* (buy).

*O* in syllabic-final position, *o-e, oa, oe, ow: go, do* (Mus.), *tho* (though), *solo, dote, note, rote* (rote, wrote), *boat, groan, doe, soe* (sew), *roe, aloe, soed* (sewed), *soen* (sewn), *window, dow* (dough), *sow, sowed* (sowed), *sown, ow* (owe), *joul/jowl* (jowl).

*U* before *a, i, and o* and in syllabic-final position, *u-e, ue, eu/ew: dual, euphuistic, duodecimal, menu, emu, refuse, impute, due, imbue, Eunice* (modern pronunciation)/*Eunicè* (B. biblical pronunciation), *new*. (Compare *yoo* (you), *yuuth* (youth), *Yugoslaav*

(Yugoslav), *Yukon*, *Yule*, *yulery*, *Yuletide*, etc.)

Except in morphemic-final position *y* as a vowel is treated like *i*: *tyme* (thyme), *system*, *systematic*, *ic'hthyology/ichthyology*. See Rule 20.

13. Vowels in certain fixed contexts should be retained in the traditional English values.

*ar*(C): *ar* (are), *bar*, *art*, *ark*, *arc*, *arct* (arced, arched), *arc'ing* (arcing, arcking); *star'y* (starry) (where the apostrophe as separator serves to lend the *ar* its special word-final value).

*war*(C): *war*, *warm*, *wart*, *swarthy*, *sward*, *swarm*, *thwart*.

*quar*(C): *quart*, *quarter*, *quarts* (quartz, quarts), *quarry* (usually pronounced *quar'y* in America).

(C)*wa*(C except *c(k)*, *g*, *ng*, *r*, *rh*, [*w*], *x*): *swab*, *wad*, *wan*, *was*, *swan*, *swap*, *swash*, *swath* (B. also *swauth*), *swav*/B. *swaav*, but *swàvity/swaavity* (suave, suavity), but note *swack*, *thwack*, *bivuuack/bivwack* (bivouac), *wacky*, *whack*, *wag*, *wag(g)on*, *swag*, *wax*.

(C)*qua*(C except *c(k)*, *g*): *quantity*, *quality*, *quad*, *quadrangle*, *quaff*, *squabble*, *squander*, *squash*, *quarry* (B.), but *quack*, *quagmire*, *quaggy*.

(C)*er*(C): *Bern* (Bern, Berne), *germ*, *her*, *lern* (learn) *erly* (early), *er* (err), *er'ing* (erring, but *errant*), *sterling*; unstressed in *runner*, *December*.

(C)*ir*(C): *fir*, *fir'y* (firry), *stir'ing* (stirring) (but *spirit*, *irritant* in intervocalic position with /i/), *quirk*, *smirk*.

(C)*or*(C): *fork*, *formal*, *for* (for both stressed and unstressed 'for,' but *foer*, *poer*, *hoarse*, etc. for 'four,' 'pour,' 'hoarse'), *horse*, *orgy*. Retain the *oar* and *ore* spellings, but substitute *oer* for *our* or *oor* when pronounced as in 'four': *foer* (four), *doer* (door), *floer* (floor), *spoor/spoer* (spoor). In general, however, *or* (when so spelled at present) may be retained to cover both sounds, particularly since there is a growing tendency to ignore this distinction throughout the English-speaking world. 'Fort' should remain *fort* because of *fortifie*, *fortress*, etc. even though *foert* would be historically and diaphonically justified. 'Forte' (strong point) might be written *foert* to provide a graphic distinction while 'forte' as a musical term should be *fortè*. The numerals should be *foer*, *foerth*, *foerteen*, but *forty* in accordance with the older pronunciation.

*Wor*C is regularly pronounced as if it were written *wur*C. This should be retained in SRS. In the case of 'worry,' however, the spelling *wurry* is preferable since it seems to be the only word in its class. SRS *wurry* covers both British and American pronunciations.

*Won*(C) is fairly regularly pronounced as if it were written *wun*(C). It occurs in only three words of any frequency: 'won,' 'wonder,' 'wont' and their derivatives. It is preferable to write them *wun*, *wunder*, *wunt/woent*, et al. The word 'wonky' practically forces us to write it *wonky* and use *wun*(-) for the others.

(C)*ur*(C): *fur*, *fur'y* (furry), *concur*, *curt*, *urge*, but *hurry* (even though the usual American pronunciation would correspond to *hur'y*).



14. The spellings *ai/ay*, *ei/ey*, *oi/oy*, *ui/uy*, *au/aw*, *eu/ew* should be regularized, using the first form in morphemic initial and medial positions and the second in morphemic final. For example: *pain*, *maior* (mayor), *lay*, *layd* (laid), *layn* (lain). *laying*, *pray*, *prayer* (one who prays), *prair* (the words recited, prayer). *Rein* (reign), *weit* (weight), *wey* (weigh), *weyer* (weigher), *weyd* (weighed), *weying* (weighing), *they*, *their*. *Boy*, *boyish*, *Roy*, *royal*, *annoy*, *annoyance* [*y* in *royal* because of *vicero*y; *y* retained in *annoyance* as in *betrayal*], *boy/booy*, *boyancy/booyancy* (buoy, buoyancy), *employ*, *employee*, *employer*, *employd*, *employing*, *coir*. *Luiwill/Luivil* (Louisville) or *Luyvil*, *Luy* (Louis) or *Luis*. Compare *fooy* (phooey, German pfui?), *hooy* (hooley), but *gooy* consists of *goo* + *y* (gooley), *sooy* (sooley), all of which belong to the informal style. *Laud*, *laun* (lawn), *saw*, *sawd* (sawed), *sawn*, *faun* (faun, fawn), *braut* (brought), *aut* (aught, ought), *gewgaw*, *naut* (naught, nought), *dauter* (daughter), *craul* (crawl), *law*, *lawyer*, *becaus/B. becos* (because), *aul* (all), *faulen* (fallen), *aulreddy* (already), *pf* or *faw* (faugh), *usquebaw* (usquebaugh). *Europ* (Europe), *eulogy*, *beuty* (beauty), *neut* (newt), *neutral*, *cue*, *kue* (queue), *peuter* (pewter), *review* (review), *new*, *few*, *leud* (lewd), *steuard* (steward), *Jew*, *Jewish*, *neuritis*, *Euripidès* (Euripides), *ew* (ewe), *lew* (lieu), and contrast *kuër* (queuer) with *cure* and *Jewery* (Jewry) with *jury*.

The *ou/ow* spellings cannot be made to parallel the others in this paragraph for a pressing, practical reason. *Wijk* retains *ou* and *ow* in all words if pronounced /au/, but substitutes *oe* for /ou/. In SRS *ou* is used in all positions for /au/ and *ow* in all positions for /ou/. Hence: *bou* (bough; bow 'to bend the body'), *bow* (and arrow); *cou*, *couard* (cow; coward), *douse* or *dous* (douse, dowse), *endou* (endow), *foul* (foul; fowl), *gouan* (gowan), *goun* (gown), *gouk/gowk* (gowk), *hou* (how), *house* (as a noun), *hous* (as a verb), *houitser* (howitzer), *joul/jowl* (jowl), *joust/just/juust* (joust), *koutou/kowtou* (kowitz/kotow), *allou* (allow), *loud*, *low*, *mou* (mow of hay), *mow* (the grass), *nou* (now), *now* (know), *pout*, *pou/pow* (pow, head), *rou* (disturbance), *row* (propel with oars; a line), *sou* (female pig), *sow* (plant seed), *show*, *shower* (one who shows something), *shouer* (rain), *thou*, *vou* (vow), *vouel* (vowel), *wou* (wow!), *you* (yow), *youl* (yowl), *zounds*.

15. The di(a)eresis should be used whenever two adjoining vowels forming a regular digraph are to be pronounced separately. If, however, three (or occasionally four) vowel letters occur together and the first two are to serve as a digraph, no dieresis is required: *Lewis* (Lewis), *Jewery* (Jewry), *euonymus*, *dieing* (dying), *vouel* (vowel), *loial* (loyal), *wuuer* (wooer, one who woos), *wuuing* (wooing) (NB: *oo* changed to *uu* in this word to avoid confusing the past tense *wuud/wood* (wooded) with *wood* (wood, would).), *gooy* (gooley), *joey*, *Joey*.

aä: <i>Baäl/Jewish pron. Baal</i>	ië: <i>diët, quiët, requiëm, diëresis</i>
aë: <i>Ishmaël, Raphaël, Laërtès</i> (Laertes)	iï: <i>dïïodoform</i>
aï: <i>daïs, naïiv</i> (naive)	oä: <i>inc'hoät/inchoät</i> (inchoate), <i>boä</i>
aii: <i>Menelaiüs</i>	oe: <i>whoëver, Noël</i> (name), <i>Noëll</i> (Christmas) (Noel/Nowell)
ea: <i>creäte, miscreänt</i>	

<i>eë</i> : <i>Beëlzebub, preëempt</i>	<i>oï</i> : <i>Eloïis</i> (Eloise), <i>Loïs, dic'hroïtic/dichroïtic</i>
<i>eï</i> : <i>theïstic, polytheïst</i>	<i>oö</i> : <i>zoölogy, noöne</i> (no-one, no one)
<i>caffëin</i> (caffeine)	<i>uü</i> : <i>ignis-fatuiis, vacuüm, residuüm</i>
<i>eü</i> : <i>reünifie</i> (reunify)	

Except as indicated, the current spelling is without the dieresis, but otherwise identical with the SRS forms.

16. When so-called silent letters are dropped that would result in an ambiguous spelling, usually an *e* is added immediately after the vowel to assure its being read as a long one: *sit* and *siet* (sight), *flit* and *fliet* (flight), *nit* (nit, knit) and *niet* (knight), *rit* (writ) and *riet* (right, wright), *bit* (bit, bitt) and *biet* (bight, but 'bite' remains unchanged). Note, however, that dropping the '(u)gh' may have a different effect. Compare *aut* (aught, ought), *braut* (brought), *fraut* (fraught), *dauter* (daughter), *sie* (sigh), *siet* (sight), *nie* (nigh), *aultho* (although), *thru* (through), *thurro* (thorough), *Hue* (Hugh), *slou* (slough), *sluu* (slough), *shuff* (slough), *plou* (plough/plow), *lokh* (lough), *Luff* (Lough), *troff* (trough), *cluff/clou* (clough), *dow* (dough), *hokh* (hough), *chuff* (chough), *A. burro/B. burra* (borough). This pell-mell listing will give an idea of the necessity for regularizing by abolition of the (V)gh spellings.

Ennuculation is the term I have proposed for placing the *e* (or other vowel) in the nucleus alongside the basic vowel letter in those cases where the dropping of silent letters requires an addition to the nucleus. This device enables us to reduce the four current spellings 'rite,' 'write'; 'right,' and 'wright' to *rite* and *riet*, respectively. Similarly, 'sign' would become *sien* while the trigonometric 'sine' would remain *sine*. The legal 'sine die' would be italicized as a foreign term or written *sinè dië*.

17. Another basic rule for conversion would be to use *aa*, *é*, *ii*, and *uu* for the so-called continental values of the four vowels. Where desired, *á*, *é*, *í*, *ó*, *ú* could be used—especially in proper names—to obviate the necessity for such Hawaiian forms as *Kaaméhaaméhaa* when all the vowels are short in the original. *Káméháméhá* is much closer to the standard spelling and *Wortbild* of King Kamehameha's name. Similarly, *Hónólulú* would represent an effort to approximate the Hawaiian pronunciation, while *Honohulu* might well become the standard English form of the name. Similarly, *Yókóhámá* and *Yókóstká* would probably be anglicized to *Yokohaama* and *Yokosuuka* because of the great number of persons who had occasion to mispronounce those names during the war and occupation.

18. This will probably seem to be the most arbitrary of my recommendations, but it is based on observation of the difficulties of other nationalities in effecting spelling simplifications. I believe that English-speaking people can be persuaded to drop initial silent consonants in words of Old English (Anglo-Saxon, Germanic) origin much more readily than in words of Latin or particularly Greek origin. *Nife* (knife), *rite* (write), *nat* (gnat), *naw* (gnaw), *narl* (gnarl), *nash* (gnash), *niet* (knight), *ring* (wring), *rong* (wrong), *rung* (wrung), *rist* (wrist) will all go against the grain, but they will be accepted if there is a far-reaching change in our spelling. \**Neumonia*, \**neumatic*,

\**nemonic*, \**saam*, \**seudonym*, \**syc'hology*/\**sychology*, \**tomain* would all arouse enough opposition to defeat any attempt at regularization. An etymologist is always shocked to see 'fantasy' and 'phantom' side by side when both go back to Middle English forms with *f* and to Greek via the Latin *ph*. If we breach the Greek *pn-*, *ps-*, *pt-*, and *mn-*, we should also substitute *i* or *ie* for *y*, *k* for *ch*, etc. That would lead to \**siekik*, \**sikik*, or \**sikic*, all unacceptable until dozens of other intricate and deep-seated problems are solved.

Initial *h* in 'heir,' 'honest,' 'hono(u)r,' 'hour' and derivatives is silent. It often is in 'herb' and 'humble.' I believe *eir*, *onnest*, and *onnor* would be preferable, while the *h* in *herb* and *humble* should be retained. In *hour* (because of *H-hour* and the desire to avoid homography in spelling two very common words *our*) it seems better to retain the *h*. A case might also be made for *heir* because of *heredity*, *inherit*, *heritage*, *inheritance*, etc. with a pronounced /h/.

19. Complete regularization of single or double consonants is not feasible in either the Dutch or German direction since our conditions are much more difficult to bring under rules without changing the spelling of thousands of words. In stressed monosyllables after the short vowels the following rule can be applied consistently: *b*, *ch* (not *tch*), *d*, *dg(e)*, *g*, *m*, *n*, *ng*, *p*, *r*, *t*, *v*, *x*, *z* are regularized as single letters or digraphs: *tab*, *eb* (ebb); *ich* (itch), *much*, *tuch* (touch), *mach* (match); *ad* (add), *od* (odd), *God*; *badge*, *ledge*, *bridge*, *dodge*, *sludge*; *bag*, *eg* (egg); *am*, *him*; *thin*, *run*; *rang*, *ring* (ring, wring); *up*, *ship*; (although *r* does not belong here phonetically, it is convenient as far as doubling is concerned) *char* (char, charr), *her*, *er* (err), *fir*, *skir* (skirr), *for*, *dor* (dor, dorr), *fur*, *pur* (purr) reveal that the *r* is not to be doubled in final position. *Dash*, *flesh*, *fish*, *posh*, *brush*; *at*, *but* (but, butt); *hav* (have), *Bev/bev*, *siv* (sieve), *giv* (give), *liv* (live v.), *luv* (love), *duv* (dove). (*Ov* seems to be the only possible word with final *v* after short *o*. It seems preferable to retain *of* as an anomalous spelling because of its frequency.) *Ax* (ax(e)) *ex*, *nix*, *ox*, *flux*; *jaz* (jazz), *fez*, *fiz* (fizz), *Oz*, *fuz* (fuzz).

*Ck*, *ff*, *ll*, and *ss*, however, are regularized under the same circumstances as double letters: *back*, *treck* (trek), *thick*, *lock*, *luck*; *staff*, *laff* (laugh), *Jeff*, *stiff*, *off*, *ruff* (ruff, rough), *tuff* (tough); *gall* (*gal*), *Sall* (*Sal* < *Sally*), *bell*, *tell*, *Jill*, *ill*, *doll* (but *roel* for 'roll'), *Poll* (< *Polly*, but *poel* for 'poll'), *lull*, *full*, *c'hlorophyll*/*chlorophyll* (last syllable under secondary stress, but *idyl* (*idyl*/*idyll*) when unstressed).

When these doubled consonants occur in similar, but unstressed syllables, however, the simple consonants reappear: *full*, but *beutyful* (beautiful), *hammok* (hammock), *politic(s)* (but *politick* as a verb because of secondary stress), *rack* vs. *barrak* (barrack) or *arrak* (arrack), *trick* vs. *Patric* (Patrick) rather than \**Patrik* because of *Patricia*, *patriciat(e)*, *rick* vs. *Limerik*/*limerik*, *dock* but *paddok* (paddock), *sock* but *cassok*, *hassok*, *tussok* (cassock, hassock, tussock). Similarly *riff* but *tarif* (tariff—ultimately *tarrif*), *sherif* (sheriff), *plaintif* (plaintiff), *caitif*, (*caitiff*), *pontif* (pontiff), *mastif* (mastiff), *ruff* (ruff, rough), *woodruff* (a plant name) and *Woodruff* as a surname, but *dandruf* (dandruff). Compare *fuss* and *typhus*, *discuss* and *discus*, *buss* (bus, 'bus, buss) and

*omnibus*, *puss* (pus, not puss, which would be *pùss*) and *octopus*, *Russ* and *phosphorus*.

20. One of the problems most in need of regularization is unstressed morphemic-final /ɪ/ or /i/ in such words as 'valley,' 'country,' 'Ariadne,' 'Charlie/Charley' and its orthographic distinction from /ai/. At present we have 'alley' and 'ally' with plurals 'alleys' and 'allies,' respectively. 'Teddy' and 'Eddie,' 'Bobby,' 'Bobbie' and even 'Bobbi' appear side by side. Proper names are usually pluralized by adding *s* ('Germanys,' 'Italys,' etc.) while the rule otherwise is: Add *s* if a vowel precedes *y*. Otherwise "change *y* to *i* and add *es*." If this very frequent morphemic-final phoneme is uniformly represented by *y*, we can regularize as follows:

*ally*, *allys* (alley, alleys)

*allie*, *allies*, *allied*, *allieing* (ally, allies, allied, allying)

*rally*, *rallys*, *rallyd*, *rallying* (rally, rallies, rallied, rallying)

*Teddy*, *Eddy* (Eddie), *Bobby*, *Germany*, *Italy*, etc.

*candid* (candid, frank) vs. *candyd* (candied)

*easy*, *easier*, *easiest* (easier, easiest)

*drie* (dry), *driër*, *driëst*; *dried*, *dries*, *drieing* (drying)

*relie* (rely), *relied*, *relies*, *relieing* (relying)

This solution would permit such spellings as *alumni* and *foci* in SRS, but would require *macaronny* and *spagetty*.

21. Another device which would enable us to reduce the number of proposed arbitrary or anomalous spellings is the limited use of *à*, *è*, *ì*, *ò*, and *ù*. Contrasted with the dieresis and acute accent, which have well defined values in SRS, the grave accent has a variety of functions, but the primary one is to avoid ambiguities that might arise from homography.

*Ò* represents the same phoneme as 'short u' /ʌ/: *mòny* or *munny* (money), *monetary* or *mònetary*, *cònstable* or *constable*, *sòn* (to distinguish graphically from *sun* and also to provide for the use of such derivatives as *Wilsonian*, *Nelsonian*, *Jeffersonian*).

*Ŭ* represents /u/, most frequently rendered by *oo* in SRS: *wooman* (woman), *boosom* (bosom), *book*, but *fùll*, *bùll*, *bùlletin*, *pùlpit*, *pùll*, *pùllet*, *pùdding*.

*Ē* represents an *e* that might appear to be a silent "lengthener" of the next preceding vowel: *Athenè*, a word of three and not two syllables, *Lethè* (but the derived adjective is *Letheän*), *Eurydicè*, *anemonè*. It is most frequently found in proper names of Greek origin. It occurs in plurals of words ending in *-sis*: *analysis*, pl. *analysès*.

*Ĭ* is recommended for children and foreigners to indicate that *ie* is to be construed as a "palatalizing" *i* plus an *e* and not as the digraph *ie* /ai/: *patient*, *conscience*. It need not be used before other vowels unless the pronunciation /i/ or /j/ is intended: *facial* /feiʃəl/; *facial* /feiʃĭəl/; *glacier* /gleiʃə(r)/, but *glaciĕr* /glaesĭə(r)/.

*Ā* would be even more sparingly used as an aid to foreigners and small children to indicate /ae/ in an unstressed syllable: *Ahàb*, *Ahàz*.

22. Except for those cases where *z* is already well established it seems preferable to let *s* represent /s/ and /z/ as well as /š/ and /ž/ before *i* and an unstressed vowel. There

is no pressing need for any change in the *th* spellings as far as a native speaker is concerned. Let *th* represent /θ/ and /ð/. *S* would require regulatory action primarily in word-final position.

- a. Double *ss* /z/ should be simplified in *posess* (possess) and derivatives.
- b. Double *ss* should be changed to *z* in *dezert* (dessert). (Retain the spelling *desert* for noun and verb in the other senses.)
- c. Double *ss* would be changed to *zz* in *sizzors* (scissors).
- d. Single *s* should be changed to *zz* in such cases as *cuzzin* (cousin) and *bizzy* (busy) with *bizness* (business), *bizzily* (busily), and *bizzyness* (busyness!) as derivatives.
- e. When current *-se* is preceded by a vowel digraph, it should be spelled with *s* when voiced and *se* when voiceless: *prais* (praise), *prays*, *rais* (raise), *rays*, *caus* (cause), *caws* (pl. of *caw*), *paus* (pause), *paws*, *pleas* (please, pl. of *plea*), *teas* (tease, pl. of *tea*), *nois* (noise), *pois* (poise), *choos* (choose), *loos* (lose), *hous* (house v.), *mous* (mouse v., pl. of *mou* 'mow'), *rous* (rouse, pl. of *rou* 'disturbance'), *brous* (browse, pl. of 'brow' *brou*)—*cease*, *increase*, *lease*, *geese*, *loose*, *noose*, *house* (n.), *mouse* (n.).
- f. When current *-se* is preceded by the voiced consonants *l*, *m*, *n*, or *r*, the *e* is retained if *s* is voiceless: *faulse* (false), *else*, *pulse*, *temse* (also *tems* 'temse'), *expanse*, *immense*, *sense*, *rinse*, *response*, *sparse*, *disperse*, *verse*, *curse*, *purse*, *herse* (hearse), *horse*, *gorse*, *endorse*, *coarse*, *hoarse*, *coerse* (course), *A. parse*, etc. (Wijk, p. 235), but the *e* is dropped if *-se* /s/ is preceded by a voiceless consonant: *laps* (lapse), *collaps* (collapse), *eclips* (eclipse), *traips* (traipse), or by a voiced consonant + /z/: *pars* (B. parse), *tems* (temse), *flens* (B. flense; A. flense/flence SRS *flense*), *clens* (cleanse).

23. The distinction between /u:/ and /u/ differentiates fewer words than any other pair of so-called long and short vowels. There is a low order of phonemicity here. The Scots retain /u:/ in all words where most other dialects have /u/. In general the retention of *oo* for both these phonemes inconveniences only foreign learners of our language. Two words will change *oe* to *oo*: *shoo* and *canoo* (shoe, canoe), while *shuu* will be used in 'to shoo away.' The past tense *shuud* would thus be distinct from *shood* (should).

In most cases /u:/ or /u/ will be represented by *u-e*, *ue*, *eu/ew* as in current spelling after *l*, *r*, *Cl*, *Cr*: *include*, *prude*; *blue*, *chue/clew*, *flue*, *accrue*, *rue*; *pleurisy*, *Reuben*; *flew*, *grew*. Examples with *j*: *Judas*, *Jude*, *jeuel* (jewel), *Jew*, *Jewery* (Jewry, for this word contrasts with *jury* in the pronunciation of most Americans, a direct inheritance of ME *jewerie* apparently), *Jewish*. Also regularized are: *wooman* (woman), *woolf*, *woolvs* (wolf, wolves), and *wimmen* (women). All current *ou* spellings representing /u:/ or /u/ should be replaced by *uu*: *gruup*, *truup*, *tuur*, *tuurist*, *raguu*, *abuulia* (group, troupe, tour, tourist, ragout, aboulia/abulia).

24. Certain suffixes or other morphemes of Germanic origin (such as *-ed*, *-er*, *-en*, *-ing*, *-ish*, *-y*) have the effect of doubling preceding consonants after a short stressed *a*, *e*, *i*, *o*, *u* (but not *oo*): *eb* (ebb), *ebd* (ebbed), *ebbing*; *ad* (add), *added*, *adding*; *eg* (egg), *egd*, *egging*; *swim*, *swàm*, *swum*, *swimmer*, *swimming*; *hide*, *hid*, *hidden*, *hiding*;

*nod, nodded, nodding, nodder; sun, sund (sunned), sunning, sunner, sunny; hop, hopt (hopped), hopper, hopping (but hope, hoped, hoper, hoping); jot, jotted, jotter, jotting; hav (have), havving (having) (but behave, behaved, behaving); liv (live), livd (lived), livving (living), livver (liver, but liver as an organ); buz (buzz), buzd (buzzed), buzzing, buzzer. Nob (knob; nob), nobby; hed (head), heddy; leg, leggy, legd/legged (legged); mum, mummy; Nan, Nanny; hap, happen, happy; dot, dotty; hevvy (heavy); "biz," bizness (business), bizzy (busy), bizzyness (busyness!). Contrast with this the change from 'fall,' 'fallen,' 'falling,' 'fallish' to *faul, faulen, fauling, faulish*; 'already' to *aulreddy*; 'steady' to *steddy*; 'heaven' to *hevven*. Note *wool, woolen* (A. *woolen*, B. *woollen*); *wood, woody*; *boogy-woogy* (boogie-woogie); *book, booky* (bookie), *bookish*; *roomy*; *rooted* (the last two with either long or short *oo*).*

There are major psychological obstacles to doubling in the case of Greek or Latin words except where there is a double consonant in the original: *study* (not \**studdy*), *rabid* (not \**rabbid*), *habit* (not \**habbit*), *c'hemist/chemist*, *monist* (but *faddist*), *static*, *fanatic* (compare *attic* and *Attic*, where the double *tt* is from the Greek), *polish* (not \**pollish*), *parish*, *perish*, *finish*, etc.

25. An *r* following any of the long vowels and diphthongs and even the vowels which appear to be short (*far, her, fir, for, fur*) has the traditional effect listed in Wijk. When followed by a vowel in the same word a distinction is made between the *ar* in *bar'ing* (<*bar*; *barring*) /a:/, *baring* (<*bare*) /ɛə/, and *barren* /æ/. Compare also *refer'ing* (<*refer*; *referring*), *refer'al* (*referral*) /ə:/, *inhering* (<*inhere*) /iə/, and *errant* /ɛ/. *Stir'ing* (<*stir*; *stirring*) /ɜ:/, *aspiring* (<*aspire*) /aɪə/, and *irritant, spirit* /i/. *Abhor'ing* (<*abhor*; *abhorring*) /ɔ:/, *boring* (<*bore*) /oə, ɔə, ɔ:/, *forren* (*foreign*), *horrible* /ɔ/. *Fur'y* (<*fur*; *furry*) /ɜ:/, *curing* (<*cure*) /juə/, and *current* /ʌ/. The separator (') between *r* and a following vowel indicates that the *r* has the effect on the preceding vowel that it would have if the *r* were final. The use of *rr* in current spelling for SRS *Vr'V* and *VrrV* is phonetically and phonemically misleading for all standard varieties of English.

### III. SPECIMENS

[SRS] Semiregularized Spelling is conceevd of as a system that in general hangs together. A few of the preceeding paragraphs cood be omitted without distorting the system and sòm few cood be added without unduly encumbering it. I hav used basically this same system for a decade in privat communications and in my own notes còvering (cuvvering?) a vartiety of subjects. Menny inconsistencies and ambiguities wer detected in that way and emendations wer incorporated into the system. The Bloch-Joos Spelling is linguistically superior to SRS, but it involvs too menny and too tradition-breaching changes to be introduced at enny one time: it wood represent a spelling revolution rather than a regularization or simplification.

The passage at the end of the Joos review-article has 126 words, of which 99 hav one or more changes (78%, or 22% unchanged). Wijk's *Regularized English* runs around

29%, or 71% unchanged. SRS runs around 21% of words of running text, or 79% unchanged, in the Dick Whittington story for children and a still hiër percentage unchanged in scholarly material. (Coincidentally, the Bloch-Joos and Semiregularized Spelling percentages of changed and unchanged words ar exactly reversed.) In the passage at the end of the Joos article SRS changes 15 words, or less than 12%, which leavs 88% unchanged.

The following version of *Dick Whittington and His Cat* (consisting of exactly 1000 words) is found on pages 321–323 of Wijk's *Regularized English*. A direct comparison of the plusses and minuses of Regularized English and SRS is thus graetly facilitated in percentages of change and in parallell colums of departures from current spelling. The uther two selections (excerpt from *Hamlet, Act III, Scene 1* and Lincoln's *Gettysburg Address*) show that a change to SRS wood not disturb appreciably the continuity of English for old or yung.

#### Dick Whittington and His Cat

Once upon a time thare livd a poor boy named Dick Whittington, *whos* faather and muther wer boeth ded. Havving niether/neether home nor frends he roamd about the cuntry trieing *to* ern his livving. Sòmtimes he cood not fiend enny work, and he often had *to* go hungry.

On market days he herd the farmers tauk about the graet city *of* Lòndon. They sed that its streets wer paved with gold. So Dick made up his miend *to* go *to* Lòndon and seek his fortune. Packing his clothes *into* a bundle and cauling his faithful cat he started out. After days and days *of* wauking the hungry lad finally reacht Lòndon.

But alas, the streets wer not paved with gold but hard cobble-stones. He wanderd about the city seeking for work. At last he came *to* the house *of* a rich merchant and nockt at the doer.

The doer was opend *by* the cook, but when she oenly saw a ragged boy on the step, she was angry and told him *to* begon. At that moment the owner *of* the house, Master Fitzwarren returnd and seeing the poor boy's condition he took pity on him and orderd the cook *to* giv him sòm food. "If yoo wish *to* work," he added, "yoo may stay here and help cook in the kichen. Yoo will fiend a bed in the attic." Dick thankt Master Fitzwarren very much for his graet kiendness.

Dick miet hav been happy had it not been for the cook, *who* whipt him aulmost every day. She treated him so badly that the merchant's dauter, *who* was a kiendharted girl, felt very sorry for the lonely lad.

One day the merchant could aul his servants *together*. He told them that he had a ship reddy *to* sail *to* forren lands, and that each *of* them miet send sòmthing in her, and they shoold hav aul it sold for.

"What ar yoo going *to* send, Dick?" askt the merchant's dauter.

"I hav nòthing *to* send," sed Dick sadly, "nòthing but *my* cat."

"Fech *thy* cat then, boy, and send her!" sed the merchant.

Dick was very sorry *to* part with Püssy, yet he obeyd his master, and with tears in his ies gave Püss *to* the captan *of* the ship.

Aultho Dick workt hard and tried *to* pleas the cook, she continued *to* beat and torment him. At last he cood not stand it enny longer and made up his miend *to* run away. *One* morning he got up very erly and, packing his few things *into* a tiny bundle, he slipt out *of* the house. When he got as far as a place cauld Hiegate, he felt tired and sat down thare *to* rest. Suddenly the bells *of* Bow Church began ringing and as he listend it seemd *to* him that they wer saying:

"Ding-dong, ding-dong. Turn agen, Whittington.

Thrice Lord Maior *of* Lòndon!"

"Lord Maior *of* Lòndon," he sed *to* himself. "*Who* wood not be Lord Maior *of* Lòndon? But if I run away, I'll never hav a chance. I'll go back agen/agén and endure aul the cook's beating rather than miss such a chance." Back he hurryd and managed *to* get *into* the house before the cook had cum down.

While aul this was happening, the ship with Dick's cat was blown *by* a storm *to* a distant cuntry inhabited *by* Moors. These peeple receevd the captan and his men kiendly and wer anxious *to* see what the strangers had in their ship. The captan showd them his goods and aulso sent sòm samples *to* the King *of* the cuntry.

The King was so well pleasd with the samples that he invited the captan *to* hav dinner with the King and Queen. As soon as the dishes wer braut in and pùt down on the table, an immense number *of* rats rusht out from every side, and swarming over the food, et/ate it nearly aul up. The captan was amazed at *this* and askt the King hou he cood stand such a thing.

"But what can I *du* *to* stop them?" sed the King. "I wood gladly giv haff *my* kingdom *to* get rid *of* these pests."

Then the captan thaut *of* Dick's cat and told the King that he had a little animal on his ship that wood make short work *of* these creatures.

"Go bring *this* wunderful animal *to* me," cried the King, "and I will load yoor ship with gold and jewels in exchange for her."

The captan hurryd off while anuther dinner was being prepared, and when he re-turnd with Püss, the rats wer bizzy eating that aulso. Doun among them he pùt Püss and she flew around killing a graet number, while the rest ran away.

The King and Queen wer overjoyd *to* see their enemys *thus* dispersed, and when the captan sed that he wood be onnord if they wood allou him *to* make them a present *of* Püss, the King was so delieted that he baut aul the ship's cargo and gave ten times as much for the cat.

The ship then saild back with fair winds *to* England. On arriving home the captan went *to* the merchant and showd him aul the tresures that the King had givven for Püss. The onnest merchant at *once* sent for Dick and congratulated him on havving becum a rich man. "Yoor cat has braut yoo more munny than I posess," he sed.



"May yoo liv long *to* enjoy it."

Dick fell on his nees and thankt Hevven for his good fortune. He then rewarded the captan and the crew and aulso gave presents *to* aul the servants, even *to* the cross-temperd cook.

Later on Dick marryd his master's dauter and the yung cupple livd long and happily. The prophecy that the bells *of* Bow Church had chimed in the ears *of* the ragged boy later came true. Three times was Dick Whittington Lord Maior *of* Lòndon.

#### Hamlet

*To* be, or not *to* be: that is the question:  
Whether 'tis nobler in the miend *to* suffer  
The slings and arrows *of* outrageous fortune,  
Or *to* take arms agénst/agenst a sea *of* trubbles,  
And *by* opposing end them? *To* die; *to* sleep;  
No more; and *by* a sleep *to* say we end  
The hart-ake and the thousand natural shocks .  
That flesh is eir/heir *to*, 'tis a consummation  
Devoutly *to* be wisht. *To* die, *to* sleep;  
*To* sleep! perchance *to* dream: y, thare's the rub;  
For in that sleep *of* deth what dreams may cum,  
When we hav shuffled off this mortal coil,  
Must giv *us* paus: thare's the respect  
That makes calamity *of* so long life—

#### Lincoln's Gettysburg Address

Foer score and seven years ago our faathers braut forth on this continent a new nation, conceevd in liberty, and dedicated *to* the proposition that aul men ar creäted equal.

Nou we ar engaged in a graet civil war, testing whether that nation, or enny nation so conceevd and so dedicated, can long endure. We ar met on a graet battlefeeld *of* that war. We hav cum *to* dedicate a portion *of* that feeld as a final resting place for those *who* here gave their lives that that nation miet liv. It is *aultogether* fitting and proper that we shoold *du this*. But, in a larger sense, we can not dedicate—we can not consecrate—we can not hallow—*this* ground. The brave men, livving and ded, *who* struggled here, hav consecrated it, far abuv our poor pouver *to* ad or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for *us*, the livving, rather, *to* be dedicated here *to* the unfinisht work which they *who* faut here hav *thus* far so nobly advanced. It is rather for *us to* be here dedicated *to* the graet task remaining before *us*—that from these onnord ded we take increased devotion *to* that caus for which they gave the last füll mesure *of*

devotion—that we here hiely resolv that these ded shall not hav died in vain—that this nation, under God, shall hav a new birth *of* freedom—and that gòvernment/guvernment *of* the peeple, *by* the peeple, for the peeple, shall not perish from the erth.

o-oooo-o ooooo o-oooo-o-oooo o-oooo-o-oooo-o-oooo-o-oo

Aul anomalous or arbitrary spellings ar underlined in these three samples. It will be seen that they ar limited to 18 words, most of them of very graet frequency: *by*, *du* [dus, dun, duth, but don't], *Cle* (usually phonemicized as C/əl/ in America), *my*, *of*, *once*, *one*, *-ous*, *this*, *thus*, *thy*, *to* (*into*, *together*, *aultogether*), *us*, *who*, *whos* [whom].

Strictly speeking (not speaking, becaus of speech), *Cle* and *-ous* ar not words, but mnemonic units for the lerner. Change shoold be deferd in these two cases to a later reform involving the principle of latency. *Able* shoold ultimatly be ritten *abil* becaus of the shift in stress in *ability* just as *-ible* shoold becum *-ibil* (*visibil*, *visibility*). *Mucus* shoold be retaind as a noun, while the adjectiv *mucous* shoold becum *mucos* becaus of *mucosity*, *mucosa*, etc. Thare ar hundreds of examples such as *generos*, *generosity*; *precios*, *preciosity*. For the present regularization it seems best to avoid as controversial an orthographic principle as latency except whare it is aulreddy establisht: *principal*, *principality*; *Wilson*, *Wilsonian*; *Paris*, *Parisian*, and so on.

The *Wortbild* and even the *Morphembild* must be kept as nearly intact as possible. For this reason I feel that the past tense of *will* shoold be *willd* (willed), of *toss* *tosst* (tossed), of *pass* *passt* (passed). This woud enable us to distinguish *child* from *chilld*, *mild* from *milld* (milled), and *wild* from *willd* (willed) without necessarily adding an *e* at the end (*childe*, *milde*, *wilde*, as in RE) or ennucleäting an *e* (*chield*, *mield*, *wield*). [1969; I nou definitely prefer ennucleätion: *chield*, but *children*, *mield*, *wield*.]

Most English spelling complications hav been tucht on and a number of possible solutions suggested/sugested. Not more than 20% of the words in running text shoold ever be reformd at one time. This will usually mean a much lower percentage of the total vocabulary if sound principles of regularization rather than of orthographic flagellation ar proposed. Every cuntry in the world outside the English- and French-speaking ones has effected spelling improovments in this century. Let us at least bring English spelling up to the French level of adequacy by 1983.

UNIVERSITY OF CALIFORNIA AT BERKELEY, U.S.A.

# INTERLINGUAL AND INTERDIALECTAL BORROWINGS IN CHINESE<sup>1</sup>

Y. R. CHAO

One of the problems that constantly beset the etymologists of the Chinese language—or in fact of any language—is the process of borrowing. You go happily collecting cases of phonetic correspondence between languages or dialects of the same period or of different periods and, just as you begin to find regular phonetic laws and conclude that “phonetic laws have no exceptions,” as the so-called neo-grammarians used to say, you come up against exceptions which break your phonetic laws. You start with regular correspondences between modern English *sh-* with older Germanic *sk-*, as in OE *scyrte* and modern *shirt*. But at a different stage you get *skirt* and *ski*—*ski* is in fact *Schi* in German and sometimes called *she* in England—and thus it brings chaos into order. Likewise, Ancient Chinese words with final *-k* following a back vowel end in a final *-k* in Cantonese and in the diphthong *au* in Mandarin colloquial, for example b'āk (薄) ‘thin’: Cant. *boak*, Mand. *baur*<sup>2</sup>; kāk (角) ‘corner’: Cant. *koak*, Mand. *jeau*. But the word for the two-cornered ravioli-like pastry called *jeautz* in Mandarin is not *koak* in Cantonese, but *kaao* in Cantonese, as in *xakaao* (蝦餃), a term you may be familiar with when you order pastry at a noon-time “tea” in a Cantonese restaurant. That this is a case of the same word is supported even in the *Kangshi Dictionary*, which identifies the character 餃 for the Chinese ravioli and the character 角 for corner in general as the same word. The confusion gets even worse when you order a slightly different kind of Chinese ravioli when the skin is made of taro instead of ordinary dough. Then you will have to order *wuhkoak* (芋角), so that from an exception to the exception you get a case of phonetically regular form again.

All the discussion so far is no more than illustrating the truism that a language or dialect is never pure and homogeneous, but always contains a greater or lesser amount of other elements mixed in through the process of borrowing.

Before proceeding, I must point out that my present use of the term “borrowing” is only in the linguistic sense and has nothing to do with the process of writing a character for a homophonous word, a process known as *jeajieh* (假借) or “phonetic loan,” which is one of the well-known six traditional categories for the formation of characters.

<sup>1</sup> Expanded from a lecture delivered at Princeton University, October 10, 1967.

<sup>2</sup> Words in Cantonese and Mandarin are romanized as in my *Cantonese Primer*, 1947 and *Mandarin Primer*, 1948, Cambridge, Mass.

There is no need to give examples of phonetic loans to readers of this article. What I must make sure is that I shall limit the use of the term "loan" to the graphic sense and, since I shall not be discussing the subject of graphs any more in the rest of this paper, I shall only use the words "borrow" and "borrowing" from here on and these have to do with the language only and not with the writing.

Borrowing between Chinese and foreign languages is of course as old as history, or older. As usual, the need of borrowing a foreign word is felt when something in a foreign culture has no near equivalent in the native culture. When a foreign plant is introduced, it often comes in together with its foreign name. A well-known example is *pwu.taur* (葡萄) for 'grapes,' as attested by Chmielewski.<sup>3</sup> In the other direction we have *cumquat* and *loquat*, the fruits from China and the words from Chinese *jinjyu* (金橘) and *lujyu* (蘆橘), respectively, although the latter is known nowadays as 枇杷 *pyi.par* ~ *pyi.ba*. Here I shall mention two factors which usually operate in interlingual borrowings. One is the tendency to use sounds within the inventory of phonemes of the borrowing language to approximate the sounds of the foreign word rather than imitate as closely as possible the foreign sounds in the word. The other is to try to read meanings into foreign words.

In the matter of the adaptation of foreign sounds, a distinction should be made between true borrowing and the admixture of foreign words in one's speech, as everyone is familiar with from hearing speakers of a minority language when they freely mix in words of a country's majority language while speaking in that minority language. For example, if one Chinese residing in America says to another, *Woo tzay woo office-lit deeng nii* 'I'll wait for you in my office,' the word *office* is spoken with sounds which either do not occur at all or do not occur in ordinary positions (such as the final *s*) in Chinese. In fact this is such common practice that once I heard the late Professor George A. Kennedy of Yale University ask, "Haven't you got a word for 'office' in Chinese?" I felt somewhat ashamed at the time, but when thinking over the question afterwards it did seem to me that there was really no word which corresponded in function to the word *office*. An office of a professor is not exactly a *shufarng* (書房), nor quite a *banngong-shyh* (辦公室), since most of the time he is not really not *bann-ing* any *gong* there. So I decided to keep saying *office* in my Chinese sentences.

On another occasion, a student of mine who wanted to get some practice in spoken Chinese was listening to a conversation between two of my daughters. As he was getting his ear attuned to the talk, he was suddenly startled by the mentioning of the English word *skipants* in the midst of a Chinese sentence. They used the word *skipants* because the Chinese do not ski and therefore do not have skipants. After that we began to use the term *skipants* for any admixture of a foreign word into a language you are using, and as both my daughters were studying at Radcliffe College at the time, *skipants* became a temporary campus slang word there.

<sup>3</sup> Janusz Chmielewski, "The Problem of Early Loan-words in Chinese, as Illustrated by the word *p'u-t'ao*," *Rocznik Orientalistyczny* 12.2, 7-45 (1958).

Anecdotes apart, the important distinction to make here is that between the occasional admixture of foreign words and true borrowing, in which latter you use only approximations of foreign sounds derived entirely from the native sounds of the borrowing language. The Japanese are often criticized for pronouncing English words incorrectly, especially when they are spelt in kana. Once, while living in Kyoto for several months, I used to come across stores with the sign バーマ. What's this sign "Palmer"?—a chain store owned by a certain Mr. Palmer? It turned out that *pāma* was an abbreviation of *pāmanento*, that is, a beauty parlor, where among other things you can have your permanents done. The relevance of this example to our discussion is that in saying *pāma* or *pāmanento* they were not trying to say an English word in the first place, but simply borrowing an English word and having it naturalized into the system of Japanese phonemics.

And of course everyone is familiar with the phenomenon of wholesale borrowing by Japan of Chinese words, along with the writing, resulting in the so-called *on*-reading of Chinese characters. Here a distinction has to be made between the borrowing of words as linguistic entities and the borrowing of writing. When one writes 一, 二, 三 . . . for 'one, two, three, . . .' and say *ichi, ni, san, . . .* that is linguistic borrowing, or borrowing proper, since these are adaptations to Japanese sounds of Ancient Chinese *īet, hzi, sam, . . .* (cf. Cantonese *iat, yih, saam, . . .*). But when the same characters are pronounced *hitotsu, futatsu, mittsu, . . .* then only graphic borrowing is involved, since the borrowing language is still using its native words and there is no borrowing, in the linguistic sense.

There is, to be sure, linguistic borrowing, done half in fun, in the character 峠, consisting of a woman radical on the left and the characters for 'up' and 'down' on the right. Here, however, the borrowing is not from Chinese, but from English, since it is supposed to be pronounced *erebētā gāru* 'elevator girl,' which is neither *on*- nor *kun*-reading. But, when 峠 'summit road' is pronounced *tōge*, then it is *kun*-reading.

So much for borrowing in terms of native sounds. But even native words can be used in borrowings from a foreign language. One of the commonest ways in which this can be done is to translate foreign phrases or compound words literally and make up neologisms that are never put together that way in the borrowing language. This is known as translation borrowing, or calque. For example, during World War II, when I was in America, I read in the Chinese newspapers that back in Chungking they were entertaining foreign guests at parties called *jiwoei-huey* (鸡尾酒) and it took me quite a little translating back into English to realize that that was simply a translation borrowing of English *cocktail*. But now everybody knows what *jiwoei-huey* or *jiwoei-jeou* (鸡尾酒) is and the translation borrowing is thus well established. A very interesting case of translation borrowing is that of *broadcast* as *goangboh* (廣播). Few English-speaking or Chinese-speaking persons using these words nowadays realize that both in English and in Chinese it was originally an agricultural term applied to the broadcasting of seeds in planting, as distinguished from close planting.

Much more subtle and harder to tell are cases of partial, or skewed translation borrowing. Language A has a word or phrase with several meanings 1, 2, 3, 4, etc., of which an ordinary translation for meaning 1 into language B should be such and such. In most cases, the other meanings, 2, 3, 4, etc. would be translated by different words in the other language. If a student of Chinese learns that *volume* in the sense of capacity or size is *rongliang* (容量) and then goes on to apply *rongliang* to volumes of books and periodicals, he will of course simply get a poor grade for his incorrect translation. But when an author or a journalist commits the same kind of error he is sometimes imitated by other writers and thus starts a skewed translation borrowing as a new usage. This was in fact how *chingsuann* (清算) 'to liquidate' started with the financial meaning, and then acquired the present political meaning, as in *Ta bey chingsuann le* 'He has been liquidated.' The adjective *weimiaw* (微妙) used to mean 'delicate' in the sense of 'frail' or 'fine' only, but since the English word is also applied to political and social situations, one reads *weimiaw* in the newspapers in this new sense. The adverb *jyhshao* as a translation of 'at least' had only a quantitative meaning in Chinese. But at some point I do not know when the English meaning of 'at any rate, in any case' crept into the word *jyhshao* and now one notices nothing foreign in phrases like *jyhshao ta bujydaw* 'at least he doesn't know.' Again, *chyuan'uei* (权威) meant 'authority' only in the sense of power or people in positions of power. But as *authority* in English also means the experts or the specialists, this meaning has also been added to the Chinese expression *chyuan'uei*.

Of course not every careless translation of a language student, or for that matter of a newspaper correspondent, will result in a new skewed translation borrowing. Once I read, in a Chinese newspaper in San Francisco a report of a joint statement by Bertrand Russell, Albert Einstein, and others, who announced that ever since the nuclear test at Bikini all *lianghao de dangjyu* (良好的当局) are agreed that another world war would mean the annihilation of mankind—*lianghao de dangjyu*? 'excellent administrators'? What could they have meant by 'excellent administrators'? It took me a double-take or triple-take to realize that *lianghao de dangjyu* was simply a skewed translation borrowing of 'good authorities': On good authority they were agreed that another world war would, etc.

Even more subtle but more interesting are cases of what is known as structural borrowing, borrowing of structural features of a foreign language without either direct borrowing or translating of any foreign word. For example, a phrase consisting of a preposition and an object in English must follow whatever it modifies, whereas in Chinese, such a phrase used attributively must precede the expression modified, usually with the insertion of the particle *de*. Thus, *the train to New York* will be *daw Neouiue de huooche* (到紐約的火車), whereas if you follow the English word order and say *huooche daw Neouiue*, then *daw* would become a predicative verb and you would be saying 'the train goes to New York.' However, you see nowadays phrases like *jengbiann tzay Yuehnan* (政變在越南), which normally should be a sentence, something like 'the

coup d'état *is* in Vietnam,' but is actually a nominal phrase meaning 'coup in Vietnam.' This word order is limited to headlines and titles of books and articles and is still not used in everyday speech or in extended texts, especially as prepositional phrases in headline English often serve as predicates, too.

As usual, simple cases of borrowing are easier to spot than asymmetrical, or skewed cases. Thus, in translating a verb in the passive voice, such as *is beaten, is swindled, is punished*, etc., one can use *bey*, with or without the agent words and say *bey daa, bey piann, bey far* (被打, 被騙, 被罰), etc. But by a skewed translation borrowing of the English form-word *by* as *bey*, you begin to hear and read *bey chengtzann, bey chiing* (被稱讚, 被請) for 'is praised, is invited,' etc. and the user is hardly aware of any foreign influence in his language. Again, there is nothing foreign in the verb *chubaa*, lit. 'issue an edition,' that is, 'to publish.' Since the compound *chubaa* consists of verb and object, it should behave as a whole as an intransitive verb, as it normally does. However, once *chubaa* is equated to English 'publish' and when 'publish' is used as a transitive verb, then you begin to find *chubaa* used likewise and nowadays people think nothing of saying *chubaa i-buh shu* (出版一部書) for 'publish a book,' and you have made structural borrowing, hardly realizing what you have done.

Another case of skewed structural borrowing is the use of the particle *le* for all cases of reference to the past, thus equating *le* to, say English *-ed*, etc., whereas in ordinary Chinese the particle *le* is used only in certain cases of reference to the past. Thus we read: *Beenwen beaushianle Jenq Gwo toongjyh jiejyi neybuh huhshiang chingyah...* (本文表現了鄭國統治階級內部互相傾軋...) <sup>4</sup> 'This writing expressed the internal mutual oppressing of the governing classes in the state of Cheng.' Such use of *le* is still limited to current writing and has not been heard in everyday speech.

Before the consideration of interdialectal borrowings, first a few words about the semantic factor in interlingual borrowing. When one borrows a foreign word, one would not only like to use native sounds, but sometimes even tries to put meaning into them in terms of similar sounding native words. Take the English borrowing of Chinese *chopsuey*, from Cantonese *dzaapsöy*, Mandarin *dzarsuey* 'miscellaneous broken (bits of things),' which is a coordinate compound of near synonyms. But the genius of the English language puts English meanings even into Chinese words and treats this compound as verb and object. For in a sign over a Chinese restaurant in Chinatown I have seen the announcement: "We Chop Our Own Suey."

While this kind of semanticized borrowing is the exception from Chinese into English, the reverse, from English into Chinese, is extremely common. For example, there is *leidar* (雷達) 'radar,' with characters meaning 'thunder' and 'reach, communicate,' i.e. something that communicates as fast as thunder and lightning. The clutch of an automobile appears in an English-Chinese dictionary as *liher-lianjourjye* (離合聯軸節), apparently translated by some scholar who sat at his desk and never

<sup>4</sup> 王力, 古代漢語, Peking 1962, Vol. 1, p. 6.

entered a machine shop or a garage. A mechanic in Shanghai calls a clutch *ka<sup>2</sup>la<sup>2</sup>tsz*, which is obviously a direct borrowing from the English and probably has no standard form of characters for it. A mechanic in Peking calls it *kawbuluel*, presumably written 靠不輪儿, and when I first heard it I thought it a very apt translation, meaning some wheel-like part which leans or presses against something. It was not until much later that I realized that it was really a borrowing from the English, the British term *coupler*. Other examples of such semanticized borrowings are *unit* appearing as *iaunih* (么匿) 'something tiny,' which in the dialect of the borrower was *iu-ni<sup>2</sup>*; *logic* appearing as *luojih*, with characters 邏輯 'survey and compile,' or *lo-jī<sup>2</sup>* in the dialect of the borrower; *rifle* appearing as *laifuh-chiang* (來復槍) 'back and forth gun,' since the bolt can be turned aside and moved back and forth for reloading, which could not be done on the old-style guns.

Sometimes a foreign word is half translated and half transliterated, that is, borrowed. Thus, *ice cream* appears as *bingchyilin* (冰淇淋), in which *ice* is translated and *cream* is transliterated. In one variety of Cantonese, this becomes *ghilim* which is nearer to *cream* than Mandarin *chyilin*. Similarly, while *Oxford* is usually completely translated as *Nioujin* (牛津) 'ox-ford,' *Cambridge*, on the other hand, appears as *Jiannchyau* (劍橋), in which the Cantonese for the *Cam*-part is *kimm*, and the *-bridge* part is translated. Sometimes a transliteration, i.e. a borrowing, is later semanticized, as in the case of *sandwich* appearing as *sanmingjyh* (三名治)—the *m* in *ming* was a result of the labial sound in the *w*—here *san* was at first nothing but a transliteration. But recently some speakers begin to apply the term *sanmingjyh* to threedeckers, so that an ordinary sandwich with two slices of bread will have to be called *ellmingjyh* and a Danish open-face sandwich will have to be called *imingjyh*. However, I have heard the last two only as speculations and have yet to hear someone actually ordering or speaking of having eaten an *ellmingjyh* or *imingjyh*.

The transliteration or pronunciation of foreign names, though it is not borrowing proper, follow on the whole the same phonetic pattern as that of borrowing ordinary words, namely, the use of native sounds which are as near as possible to the foreign sounds. However, once a foreign name is known under a certain choice of characters, then it will be pronounced by speakers of various dialects in their own reading of the characters. Thus, I first learned of the name of the famous English natural philosopher as *Nayduan* (奈端). It was not until many years later that I discovered that *Nayduan* in some form of Cantonese was *noaytoan* (-tün in Canton City), being an approximation of the German pronunciation of *Newton*. Later, when I wrote for *Keshyue* (科學, Chinese *Science*) I proposed the transliteration 牛頓, *Niouduenn* in Mandarin, which in the mouth of a Cantonese who speaks no English would come out as *Ngautönn*. In the transliteration of proper names one would think that, apart from naturalization of foreign sounds and possible preference for elegant-looking characters, there would be no semantic or structural factors involved. Actually, both are occasionally met with, as we have seen in the case of *Cambridge*. The place name *Champagne* was no



doubt transliterated as 香檳 (*shiangbin*) after it became identified with the fragrant wine named after it.

Much more subtle are influences of Chinese rhythm and syllabication in the rendering of proper names. Since monosyllabic names are normally not free forms in Chinese, a name like *Dean* will appear in Chinese as 第安 (*Dih An*), as if surnamed *Dih*, with a given name *An*. The place name *Bonn* appears in the newspapers as 波昂 *Bo'arng*. Since the majority of Chinese full names, such as 張天一 *Jang Tian'i*, are in the form of 1+2, with a monosyllabic surname and a dissyllabic given name, so when a foreign surname is transliterated into three characters, for example, 杜魯門 (*Duhluumen*), for *Truman*, a common practice, often followed by old-timers in China, is not to bother with transliterating the given name or names, but simply to treat *Duh*, say, as the surname and *Luumen* as the given name, so that a name dropper might say, "I haven't seen *Luumen* for quite a long time, but *Senhaur* (森豪) called me up yesterday" (since Eisenhower's *shing* is *Ay* (艾) and his *ming* is *Senhaur*).

Occasionally, we find borrowings back and forth, because the users of the lending language can no longer recognize the borrowed forms. Thus, the place name 老街 'Old Street' on the China-Vietnam border is pronounced *lao gai* in SW Mandarin, and since both aspirated and unaspirated *k* is usually spelled with the letter *k* in place names, the name *Laokai* was regarded as a foreign name, rechristened in Chinese characters 牢開, and pronounced *laukai* (with [k'-]). Similarly, Cantonese *daay fong* (大風) means simply 'great wind.' But when transliterated as *typhoon* and applied to a specific kind of great wind, it was regarded as a foreign word and a new character 颱風 (not in the *Kangshi Dictionary*) had to be made up in the new term 颱風, pronounced *tairfeng* in Mandarin.

So much for interlingual borrowings. As for interdialectal borrowings, since the principles involved and the types met with are largely the same as those in interlingual borrowings, I need only to cite some examples of each type, noting only special conditions where there are some differences. But before enumerating the various types, I must first make a distinction between true borrowing and the carrying over of native features by a speaker of dialect A when he is trying to speak dialect B. It is not true borrowing until native speakers of dialect B, possibly under the influence of such carryovers, adopt such features in their own speech. For example, the use of *yeou* 'have' as an auxiliary verb for the perfective aspect (to be discussed below) is used only in the negative form in Mandarin. Since only speakers of Cantonese and Fukienese who learn Mandarin as a second dialect use it in the positive form, such usage is not yet a true borrowing into Mandarin until, perhaps in 20 or 50 years if at all, native Mandarin speakers adopt it.

No dialect is absolutely pure, and, apart from a main stock of regular forms, there are usually a fair number of "irregular" forms, or forms known as *nichtlautgesetzmässig*, because of borrowings from other dialects. We already met with the case of Cantonese *kaao* for *jeautz* instead of an expected *koak*, which indeed is the form used if the skin

is taro and not wheat flour. A similar borrowing is in the word *jeau* (攪). In the primary sense of 'stir' or the extended sense of 'stir and confuse,' it is perfectly regular. It is *gao* in the central dialects and *jeau* in the northern dialects. But in the central dialects it is further extended to mean 'to do with' (in general), so that you can not only *gao-luannle* (口乱了), 'have confused,' but also *gao-ching.chuule* (口清楚了) 'have made clear,' not only *gao-huayle* (口壞了) 'have spoiled things,' but also *gao-haole* (口好了) 'have made things all right,' so that it is practically synonymous with the general-purpose verb *nonq* (弄) 'to do something with.' In very recent usage there is also the expression *gao-tongle* (口通了) 'to see things through in a way acceptable to the Communist authorities.' Since Northern Mandarin did not at first have the more general meaning, for which the only word available is *nonq*, so when the Northerners did come around to borrow this word *gao* from further south, they did not find the etymologically proper character 攪 (*jeau*) suitable and so started to make up a new character 搞 for this general-purpose verb. This is quite analogous to the earlier creation of the character 餃 in addition to 角, since the Southerners would rather use a new character than add a new pronunciation to 角.

But in a large category of cases of interdialectal borrowing you do find two readings of the same character. These have to do with the so-called literary and colloquial pronunciations of characters, or in some dictionaries marked as *dwuin* (讀音) 'reading pron.' and *yeuin* (語音) 'spoken pron.' These are convenient ways of referring to two phonological types and the actual usage varies with individual cases.

In Mandarin such doublets occur chiefly in words in the Entering Tone originally ending in *-k*. For example *bor* (< *b'âk*) 薄 in the abstract sense, as in *kehbor* (刻薄) 'mean, cruel,' but *baur* in the primary sense, as in *how-baur* (厚薄) 'thick or thin'; *seh* (< *siak*), as in *sehtsae* (色彩) 'coloring,' usually in the political or some other figurative sense, but *shae* in *diaw-shae* ~ *-shaal* (掉色(儿)) 'lose color' (of things which are not dyed in fast colors), but there is free variation in *yan.seh* ~ *yan.shae* (顏色) for color in general, whereas *diou g yeanseh* (丢个眼色) 'throw a hint with the eyes' it is *seh*. Note that the spoken forms actually keep more of the ancient pronunciation than the reading forms: In the diphthongs of the *ai*, *au* types, the semivocalic endings are simply the vestiges of the original *-k* (just as the *y* in *royal* came from *rex*, and the *w* in *law* came from *lex*). The reading forms on the other hand have dropped the original endings without a trace. Now the geographic distribution of such doublets is very symptomatic of the dialectal borrowing from the central dialects. In the North, from Manchuria through most of Hopei to Honan, the typical treatment of such *-k* words is to use diphthongs in all cases (except of course so far down into Honan and Shantung that all diphthongs become monophthongized and the distinction under consideration is neutralized, thus rendering the question vacuous). It is only in the metropolitan area, what used to be called *Jingjaw chiu* (京兆區), maybe no more than 100 miles in diameter around Peking, that such doublets are found. Whether you came from Mukden or Paoting, it is both *ji.jeau* (犄角) 'a horn (of an animal)' and

*jeauduh* (角度) 'degrees of an angle' instead of *ji.jeau* and *jyueduh*. In Peking it is *tarng-sanjeaul* (糖三角儿) 'sweet triangular steamed buns,' but *sanjyue* or *sanjeau* 'trigonometry.' I have not gone into the source material on this special development, but from my contacts during the early part of this century with such keen observers and students of phonology as Bair Dyijou (白滌洲), Chyan Shyuantong (錢玄同) and others, they were agreed that it was the influence of the literati class from further South such as Kiangsu and Anhwei that contributed to such reading pronunciations in addition to the indigenous forms with diphthongs.

Interdialectal borrowing of items of vocabulary and idiom is sometimes clearly noticeable, though sometimes quite hidden and almost naturalized. Leaf through any current magazine or book and you will find at least once in every other publication the Wu dialect expression 尷尬, applied to situations which are embarrassing or which put a person in a quandary. Now, in the typical dialect in which this is native, for example, in Soochow, it is pronounced [ke:ka]. But this is very much at odds with Mandarin phonemics and most readers who have heard the expression in a Wu dialect will adapt it to Mandarin sounds—for that is the normal thing to do in true borrowing—and pronounce it something like *gangah*, whereas the relatively few who never heard it will just read the phonetic parts of the characters 監介 and pronounce it *jianjieh*. Another borrowing into Mandarin from the Wu dialects that is still recognized as such is *itah hwutwu* (一塌糊塗) 'all in a great mess,' often used as an intensive predicative complement, as in *chih de itah hwutwu* (氣的...) 'awfully angry.'

More tricky and more intriguing are words and phrases which exist in Mandarin but not quite in the same sense and/or not occurring with the same frequency. Shortly after World War II, a friend's daughter came and stayed for a while in our house in California. With every little annoyance or trivial problem she would describe it as *shang naojin* (傷腦筋) 'it hurts the brain.' What a picturesque language this girl uses, I thought at the moment. It was not until later that I discovered that along with the interlingual borrowings such as *jiwoeihuey* mentioned above, the eastern refugees in Szechwan, when they returned east, had brought with them down the river a number of interdialectal borrowings, too, and the expression *shang naojin* was just an everyday hyperbole just as 'awful' in English no larger contains any suggestion of awe.

In the case of near synonyms of different relative frequencies in different dialects, the effect of borrowing is hardly noticed by the speakers and thus the slightly different usage is more easily borrowed. For example, both *shuo* (說) and *jeang* (講) are used in Mandarin, with *shuo* used more generally in the sense of 'say,' as in *ta shuo ta yaw lai* 'he says he wants to come,' *shuo-hauh* 'say words, —to talk,' *shuo guh.shyh* 'tell a story,' etc., while *jeang* occurs much less frequently and is used only in the sense of 'tell about,' 'explain (at some length),' as in *jeang daw.lii* 'tell the reason' or 'to preach,' *jeang guh.shyh* 'tell a story,' *jeangching.chuule* 'explain clearly.' In the central and southern dialects, however, *shuo* (or its cognates *se*<sup>2</sup>, *shüt*, etc.) are much less used and *jeang* (or its cognates) is practically used in both senses, so that nowadays one hears

*ta jeang ta bu lai le*, when all he said may have been no more than the two words *bu lai*.

Another pair is *chaur* (潮) 'damp' and *shy* (濕) 'wet' in Mandarin. In the Wu dialects the corresponding cognates, e.g. [zɔ:] and [sə'] in Shanghai, are used with very different frequencies; the former used for both 'damp' and 'wet,' the latter used very infrequently, and mostly in compounds. Again, take the three near synonyms *bae*, *fanq*, and *ge* (擺, 放, 攔), allowing as usual for the greater or lesser differences in pronunciation in various dialects, all meaning 'to put.' More specifically, *bae* means 'to lay out, to display,' *fanq* 'to let down, to rest (on something),' and *ge* literally 'to shelve.' But for 'to put (in general),' the favorite word to use in Wu is *bae* (actually pronounced [pa] in most places), in Nanking the preference is for *fanq* and *bae* next, in Foochow it is *fanq* (i.e. [pouŋ<sup>2</sup>]), while in Peking the only word for 'to put (in general)' is *ge*. But in Taiwan, since the great influx of mainlanders, many from the lower Yangtze basin, the speakers of Mandarin there use more and more *bae* and *fanq* rather than *ge*. So here is a borrowing, not so much of a new dialectal form, as a borrowing of a new frequency for an existing form. It is therefore a sort of structural borrowing in disguise.

Another kind of quasi structural borrowing between dialects is the analogical shift of a phonological class in one dialect to include cases which are not so included in another dialect. For example, Cantonese *dok*, Wu d'ɔ', Mandarin *dwu* (讀) 'to read,' Cantonese *pit*, Wu b'ie', Mandarin *bye* (別) 'to distinguish,' from which speakers of those dialects, when trying to speak Mandarin, will say *derbye*, as we often hear, for *tehbye* (特別) 'special,' on the principle that ancient voiced stops in the Entering Tone will go into Mandarin voiceless unaspirates in the 2nd Tone—not that those speakers have any notion of voicing and tones—but that is how analogy operates in a quite unconscious way when one learns by ear how to shift—shift gears, shall we say?—from one dialect to another. For another example of such analogical shifts, take the complement *-daw* (到) in the sense of successfully getting at something or some result. For instance from *gow* (覓) 'to reach for,' there is *gow.bu-daw* or *gow.bu-jaur* (覓不到 or 覓不着) 'to reach for but cannot actually reach (or touch),' *sheang.bu-daw* (想不到) 'cannot think so as to get at the fact, —unexpectedly, to my surprise.' This is obviously simply a slight extension of the meaning of *daw* as a main verb 'to reach (in general).' In Cantonese and in the SW dialects, however, while *daw* as a main verb regularly has the usual 4th Tone, in this special use as a complement in the sense of successfully getting at I have just described, it has the 3rd Tone. Now it happens that in the SW Mandarin dialects, that of Chungking for example, *their* 3rd Tone is falling and *their* 4th Tone is rising. So, when a Szechwanese starts with *his* (falling) 3rd Tone in words like 好 'good,' 美 'beautiful,' 有 'have,' 想 'think,' and successfully changes it into the northern low-dipping type of the 3rd Tone and say *hao*, *meei*, *yeou*, *sheang*, he would automatically and quite unconsciously change his 到 (his 3rd Tone) into Mandarin *dao* and say things like: *Woo jintian penq-daole ig perngyeou* (我今天碰口了一个朋友), as if to say: 'Today I knocked down (碰倒了) a friend' when all he meant was simply:

'I met a friend today.' Actually, if he were to keep his SW (falling) 3rd Tone on 到 *dao*, it would sound more like northern Mandarin *daw*.<sup>5</sup> However, since learning by ear the tones of another dialect does not usually work this way, he does it the usual way, namely by the total general impression, so that, unless he is specifically warned against such and such individual cases (particularly as the one just cited is only half a case, since as a main verb 'to reach' it is quite regular in both dialects), he will invariably fall into such a trap.

Of interdialectal structural borrowing proper, I shall mention only a few well-established cases. In northern Mandarin, one of the progressive forms of a sentence may read something like: *Ta t̚zay.nall daa-lieh ne* (他在那儿打獵呢) 'He is hunting.' But in Southern Mandarin, the object of *t̚zay*, namely *nall*, is usually omitted and one says *Ta t̚zay daa-lieh*, as if to say 'He is a-hunting.' This is so common now that people hardly notice the difference, especially as the consonants are often so weakly articulated that *t̚zay.nall* often comes out as [tsã̃] or even as [zã̃], as in *Ta [zã̃] daa-lieh ne*. But writing simply one character 在 is now definitely the everyday written *bairhuah* used by most writers.

I shall conclude by citing a couple of examples of more purely structural borrowing between dialects. One is the use of the verb *chiuh* in the sense of 'to go to.' Anciently, when the verb *chiuh* was followed by a place word, as in *Koongtzyy chiuh Jenq* (孔子去鄭), it meant 'go away from (a place)': 'Confucius left (the state of) Jenq.' But in the form in which this verb is borrowed into recent Mandarin from Cantonese and Fukienese, it means just the opposite, so that *chiuh Shanhghae* means 'go to Shanghai' instead of 'go away from Shanghai.' Another borrowing, probably from the Wu dialects, into Mandarin, is the use of *chiuh* in the sense of going away (from here), with no destination expressed or implied. In the pure Peking dialect the word is *tzoou*, as in *Tzarmen tzoou ba* 'Let's go (i.e. leave) now,' whereas *Tzarmen chiuh ba* would imply that we can start going to some place we have in mind. The difference between *chiuh* and *tzoou* corresponds quite closely to that between French *aller* (or *y aller*), as against *s'en aller*.

A case of skewed structural borrowing briefly mentioned above is the southern usage in which *yeou* occurs as an auxiliary verb for the perfective aspect, which in Mandarin takes the form of a verb suffixed by *-le*. Since the negative of *V-le* takes the form *mei V* or *mei.yeou V*,<sup>6</sup> there is a lack of symmetry in Mandarin between the positive and the negative, as in: *Ta laile* 'He has come,' but *Ta mei (.yeou) lai* 'He has not come.' The corresponding A-not-A question will then take the form *Ta laile .mei.yeou?* 'Has he come?' In Cantonese and Fukienese, however, the cognates of *yeou* can be used also in the positive and this has resulted in a borrowing, now sometimes heard in the Mandarin spoken in Taiwan, though still rare with native northerners. For

<sup>5</sup> For further examples of this complement see Y. R. Chao, *A Grammar of Spoken Chinese*, Berkeley 1968, p. 465.

<sup>6</sup> See Wm. S-Y. Wang, "Two Aspect Markers in Mandarin," *Language* 41. 3. 457-470 (1965).

example, in a recent conversation between a Harvard-trained American girl (let us call her "Kay") and a Chinese from Taiwan speaking Mandarin (let us call him "Mr. Chu"), I heard the following:

Kay: *Ta tzueyjinn laile shinn .mei.yeou?*

'Has he written lately?'

Mr. Chu: *Yeou* '(Yes, he) has.'

While an answer in the negative can very well be *Meiyeou* in Mandarin, a positive answer will have to be *Laile shinn le*. It is of course a different matter if *yeou* is used as a main verb 'to have' in *Ta yeou shinn .mei.yeou?* to which one can very well answer *Yeou*.

Another form of structural borrowing, from Cantonese into Mandarin, is the splitting of compounds in asking the A-not-A form of questions. In asking such questions with predicates of more than one syllable, say *shinn-goei* (信鬼) 'believe in ghosts', the order of preference is:

- (1) *Nii shinn-goei bu shinn?*
- (2) *Nii shinn-goei bu shinn-goei?*
- (3) *Nii shinn bu shinn-goei?*

The last form is preferred only when the object is very long, as in: *Nii jydaw bu jydaw ta tsorng waygwo hweilaile yijing yeou haojiig yueh le?* (你知道不知道他从外國回来了已經有好幾個月了?) 'Do you know that it has been quite a few months since he returned from abroad?' In Cantonese, however, the usual form is to apply the A-not-A formula to the first syllable of the predicate, irrespective of whether it is a free verb or a bound part of a compound. When this is borrowed into Mandarin, you hear nowadays such questions as: *Nii jy-bu-jydaw ta yaw lai le?* (你知不知道他要來了?) 'Do you know that he is coming?' *Nii shii-bu-shiihuan chy waygwo-fann?* (你喜不喜歡吃外國飯?) 'Do you like to eat foreign food?' *Waygwo-fann nii chy-bu-chy.de-lai?* (外國飯你吃不吃得來?) 'Can you get used to eating foreign food?' *Jeyg tay-bu-tay duo?* (這個太不太多?) 'Is this too much?', where the normal Mandarin forms would have to be *jydaw bu jydaw*, *shiihuan bu shiihuan*, *chy.de-lai chy.bu-lai*, *tay duo bu tay duo* . . . I say "normal," because it is still the usual form in northern speech, though the *jy.bu-jydaw* form has been gaining ground and is certainly very common among speakers of Mandarin who come from Taiwan.

Finally, I shall cite an example of skewed structural borrowing, in which a verbal complement used in Mandarin has acquired an additional function almost like that of a suffix. I refer to the extremely frequent use of *diaw* (掉) lit. 'to fall off' as a translation borrowing from the Wu-dialect *t'ə* (脱). As a main verb, *diaw* occurs in such phrases as *diaw de dih.shiah* (掉得地下) 'drop on the floor,' *mhau diaw-mau* (貓掉毛) 'the cat sheds fur.' As a full complement, one can say *may.bu-diaw* (賣不掉) 'cannot sell off' (e.g. an overstock), *bae mawtz penq-diawle* (把帽子碰掉了) 'have knocked off the

hat,' *bae tzang dou shii-diawle* (把髒都洗掉了) 'have washed off all the dirt,' *bae jytz bar-diawle* (把枝子拔掉了) 'have pulled off the branches.' But in the Wu dialects, there is an additional function in the corresponding complement *t'ə* expressing simply completion of some action of a somewhat unfavorable meaning, as in *si-t'ə<sup>3</sup>-ze* (死音洗脫哉) 'died off, —died,' *ma-t'ə<sup>3</sup>-ze* (賣脫哉) 'sold off, —sold,' *məŋtɕi-t'ə<sup>3</sup>-ze* (忘記脫哉) 'forgotten.' In Mandarin such a complement normally translates into the word-suffix *le*, resulting in *syyle*, *mayle*, and *wangle*. For the *ze* part of those forms there should be added a sentence-*le* in Mandarin. But since when two *le*'s coming together are usually telescoped into one by haplology, the resulting forms will still be *syyle*, *mayle*, and *wangle*. And this may have been an important contributing cause for borrowing this extended use of the complement *diaw*, resulting in formerly non-Mandarin forms *syy-diawle*, *may-diawle*, and *wanq-diawle*, or even *wanq.jih-diawle*. Because *diaw* is used also as a full complement, this extended use is so easily added that one often fails to notice its southern origin.

Now, I may sound as if I were against such borrowings, from Wu and Cantonese dialects, not to speak of 'skipants' and things, from English. But my job here is to observe and describe and not to judge or advocate. No language or dialect is pure in the neo-grammarians sense, and, whether I like it or not, neologisms are coming up all the time, and some of them will stick and stay. And if I find some of these forms like *syy-diawle*, *wanqjih-diawle* still unpalatable, I can only lay down my arms and say: "You win," which in a successive process of interlingual and interdialectal borrowing becomes: *Woo shu-diawle* (我輸掉了).

# DEEP STRUCTURE, SURFACE STRUCTURE, AND SEMANTIC INTERPRETATION\*

NOAM CHOMSKY

In a general way, I will be concerned in this paper with the relation of syntactic structure to semantic representation in generative grammar. I will outline a general framework within which much of the discussion of these questions in the past few years can be reformulated, and alternatives compared as to empirical content and justification, and I will discuss some empirical considerations that suggest a choice among these alternatives that is different, in some respects, from either the theory of grammar outlined in Chomsky (1965) or the proposals of a more "semantically-based" grammar that have been developed in the important work of the past few years. Specifically, these modifications have to do with some possible contributions of surface structure to delimiting the meaning of a linguistic expression.

A grammar of a language, in the sense in which I will use this term, can be loosely described as a system of rules that expresses the correspondence between sound and meaning in this language. Let us assume given two universal language-independent systems of representation, a phonetic system for the specification of sound and a semantic system for the specification of meaning. As to the former, there are many concrete proposals; for example, the system described in detail in chapter 7 of Chomsky and Halle (1968). In the domain of semantics there are, needless to say, problems of fact and principle that have barely been approached, and there is no reasonably concrete or well-defined "theory of semantic representation" to which one can refer. I will, however, assume here that such a system can be developed, and that it makes sense to speak of the ways in which the inherent meaning of a sentence, characterized in some still-to-be-discovered system of representation, is related to various aspects of its form.

Let us assume further that the grammar in some manner specifies an infinite class of surface structures, each of which is mapped onto a phonetic representation by a system of phonological rules. I assume further that the grammar contains a system of grammatical transformations, each a mapping of phrase-markers onto phrase-markers. In ways that need not concern us in detail, the system of grammatical transformations determines an infinite class  $K$  of finite sequences of phrase-markers, each such sequence  $P_1, \dots, P_n$  meeting the following conditions:

---

\* This work was supported in part by the National Institutes of Health (Grant MH-13390-01).



- (1) (i)  $P_n$  is a surface structure
- (ii) each  $P_i$  is formed by applying a certain transformation to  $P_{i-1}$  in a way permitted by the conditions on grammatical rules<sup>1</sup>
- (iii) there is no  $P_0$  such that  $P_0, P_1, \dots, P_n$  meets conditions (i) and (ii).

Let us refer to  $P_1$  as a *K-initial* phrase-marker in this case. We refer to the members of  $K$  as the *syntactic structures* generated by the grammar. So far, we have described  $K$  in terms of the class of surface structures, somehow specified, and the system of grammatical transformations, that is, the grammatical transformations of the language and the conditions on how they apply.

Let us assume further that the grammar contains a lexicon, which we take to be a class of lexical entries each of which specifies the grammatical (i.e., phonological, semantic, and syntactic) properties of some lexical item. The lexicon for English would contain this information for such items as *boy*, *admire*, *tall*, and so on. Just how extensive the lexicon must be—equivalently, just to what extent this information is determined by other parts of the grammar—we leave open. We may think of each lexical entry as incorporating a set of transformations that insert the item in question (that is, the complex of features that constitutes it) in phrase-markers. Thus

- (2) a lexical transformation associated with the lexical item  $I$  maps a phrase-marker  $P$  containing a substructure  $Q$  into a phrase-marker  $P'$  formed by replacing  $Q$  by  $I$ .

Theories of grammar may differ in the conditions on  $Q$ , and more generally, on the nature of these operations.

Suppose, furthermore, that all lexical items are inserted into a phrase-marker before any nonlexical grammatical transformation applies. Thus the grammar meets condition (3):

- (3) Given  $(P_1, \dots, P_n)$  in  $K$ , there is an  $i$  such that for  $j < i$ , the transformation used to form  $P_{j+1}$  from  $P_j$  is lexical, and for  $j \geq i$ , the transformation used to form  $P_{j+1}$  from  $P_j$  is nonlexical.<sup>2</sup>

<sup>1</sup> Some of the conditions may be specific to the grammar (e.g., certain ordering conditions on transformations), and others general (e.g., the principle of the cycle, in the sense of Chomsky, 1965). These conditions will define certain permissible sequences of transformations and determine how a permissible sequence maps a phrase-marker  $P$  onto a phrase-marker  $P'$ . Hence with each such permissible sequence  $T_1, \dots, T_n$  we can associate the class of all sequences of phrase-markers  $P_1, \dots, P_{n+1}$  such that  $T_1, \dots, T_i$  maps  $P_1$  onto  $P_{i+1}$  ( $1 \leq i \leq n$ ) in the manner determined. The class  $K$  consists of those sequences of phrase-markers which are so associated with permissible sequences of transformations, which terminate with surface structures and which are maximal in the sense of (liii). Each transformation carries out a certain definite operation on a sub-phrase-marker of the phrase-marker to which it applies; given the principle of the cycle, or others like it, the choice of this sub-phrase-marker may be determined by the position of the transformation in question in the permissible sequence of transformations.

<sup>2</sup> In terms of note 1, each permissible sequence of transformations can be analyzed as  $(L, S)$  where  $L$  is a sequence of lexical transformations and  $S$  a sequence of nonlexical (i.e., true syntactic) transformations.

In this case, let us define  $P_i$  to be the *post-lexical structure* of the sequence  $P_1, \dots, P_n$ .

Thus a grammar, so conceived, must have rules specifying the class  $K$  and relating each member of  $K$  to a phonetic and semantic representation. In particular, the grammar will contain a lexicon and grammatical transformations. Within this general framework, we can describe various approaches to the theory of transformational-generative grammar that have been explored during the past few years.

The theory outlined in Chomsky (1965) assumes that in addition to a lexicon, a system of grammatical transformations, and a system of phonological rules, the grammar contains a system of rules of semantic interpretation and a context-free categorial component with a designated terminal element  $\Delta$ . The categorial component and the lexicon are referred to as *the base* of the grammar. It is assumed that the grammar meets condition (3), so that a class of post-lexical structures is defined. A general well-formedness condition is proposed for surface structures. The class  $K$  of syntactic structures consists of those sequences  $P_1, \dots, P_i, \dots, P_n$  ( $P_1$  being the  $K$ -initial structure,  $P_i$  the post-lexical structure, and  $P_n$  the surface structure) meeting condition (1) where, furthermore,  $P_1$  is generated by the categorial component and  $P_n$  meets the well-formedness condition for surface structures.<sup>3</sup> Surface structures are mapped into phonetic representations by the phonological rules. Post-lexical structures are mapped into semantic representations by the semantic rules. In this formulation, the post-lexical structures are called *deep structures*. The deep structures contain all lexical items, each with its complement of grammatical features. Furthermore, the configurations of the phrase-marker  $P_1$ , which are preserved in the deep structure, can be taken to define grammatical relations and functions in a straightforward manner. It is natural (though I shall argue, only in part correct) to suppose that the semantic interpretation of a sentence is determined by the intrinsic semantic content of lexical items and the manner in which they are related at the level of deep structure. Supposing this (following, in essence, Katz and Postal, 1964), it would follow that deep structures determine semantic representation under the rules of semantic interpretation.

Thus the deep structures, in this theory, are held to meet several conditions. First, they determine semantic representation. Second, they are mapped into well-formed surface structures by grammatical transformations (without any subsequent insertion of lexical items). Third, they satisfy the set of formal conditions defined by base rules;

<sup>3</sup> More specifically, a general principle of lexical insertion is formulated which interprets the features (in particular, the contextual features) of lexical entries as lexical insertion transformations and applies these transformations to  $P_1$  giving, ultimately,  $P_i$ . A lexical insertion transformation replaces a particular occurrence of the designated symbol  $\Delta$  of  $P_1$  by a lexical item. Thus in the notation of (2),  $Q$  is always  $\Delta$  and the transformation replaces  $Q = \Delta$  by  $I$ . We may assume, therefore, that the ordering of  $P_1, \dots, P_i$  is immaterial—that is, that we consider as syntactic structures equivalence classes defined by the relation among members of  $K$  that differ only by a permutation of  $P_1, \dots, P_i$ .

The transformations are said to have a *filtering function* in the sense that the well-formedness condition on surface structures must be met.

Several variants of such a theory are discussed in Chomsky (1965).

in particular, the rules of the categorial component define the grammatical functions and order of constituents, and the contextual features of lexical entries determine how lexical items can be entered into such structures.

I will refer to any elaboration of this theory of grammar as a "standard theory," merely for convenience of discussion and with no intention of implying that it has some unique conceptual or empirical status. Several such elaborations have been proposed and investigated in the past few years.

Observe that a standard theory specifies, for each sentence, a syntactic structure  $\Sigma = (P_1, \dots, P_i, \dots, P_n)$  (where  $P_i$  is the deep and  $P_n$  the surface structure), a semantic representation  $S$ , and a phonetic representation  $P$ . It asserts, furthermore, that  $S$  is determined by  $P_i$  and  $P$  by  $P_n$  under the rules of semantic and phonological interpretation, respectively. More generally, the theory is "syntactically based" in the sense that it assumes the sound-meaning relation ( $P, S$ ) to be determined by  $\Sigma$ .

It goes without saying that none of the assumptions in the foregoing exposition is self-evident, and that all are open to empirical challenge. Thus, to take perhaps the least controversial, it might be argued that there is no level of phonetic representation, but that syntactic structures are related directly to the organization of peripheral musculature, sensory organs, and neural structures, by operations that are of an entirely different sort than those of grammar. There is no a priori way to demonstrate that this view is incorrect, or to justify the postulation of the level of phonetic representation, which, in this view, is superfluous. The most that one can hope to show is that an interesting range of phenomena can be accounted for by a theory that incorporates a level of phonetic representation of the sort postulated, that there is no crucial counter-evidence, and that there is no reason to suppose that some alternative form of theory will be more successful. Even stronger doubts can be (and often have been) expressed with respect to the notion of semantic representation. Thus one might argue that nonlinguistic beliefs, intentions of the speaker, and other factors enter into the interpretation of utterances in so intimate—and perhaps so fluctuating and indefinite—a fashion that it is hopeless and misguided to attempt to represent independently the "purely grammatical" component of meaning, the various "readings" of expressions in the sense of Katz and Postal (1964) and other versions of the standard theory, and the relation between such readings and a syntactic structure  $\Sigma$ .<sup>4</sup>

<sup>4</sup> The literature relating to this subject is too extensive for detailed reference. See, for example, Quine (1960) for discussion of the interpenetration of linguistic and nonlinguistic knowledge. Stampe (1968) argues, in part on grammatical grounds, for a "Gricean view" (see Grice, 1957, 1968) that the notion of "reading" or "semantic interpretation" must be understood in terms of the more basic notion, "Agent-means-x-by-y," an approach which calls into question the possibility of developing a coherent notion of "semantic representation" strictly as part of grammar. For conflicting argument, see Katz (1966), Searle (1968).

There are still other sorts of consideration that might lead one to question the notion of "reading," as construed in recent work. Thus consider such phrases as "John's picture." In addition to the readings "picture of John" and "picture that John has," the phrase might be interpreted as "picture that John created," "picture that John commissioned," and no doubt in other ways. On the other hand, "John's

If one were to deny the existence of phonetic representation, he might argue that a generative grammar, strictly speaking, is a system of rules relating semantic representation, deep structure, and surface structure, some entirely new sort of theory relating the generated structures to physical signals or perceptual representations. If one were to deny the existence of semantic representation (readings, in the sense of recent discussions), he might argue that a generative grammar is a system of rules relating deep structures, surface structures, and phonetic representation, proposing further that entirely different principles are involved in determining what a person means by saying so-and-so. Evidently, there is no a priori argument against these views, as there is no a priori necessity for a grammar to define systems of deep and surface structure in the sense of the standard theory. Many of the assumptions in the standard theory are uncontroversial in the sense that they have been adopted, explicitly or implicitly, in those studies that attempt to characterize the notion "knowledge of a language," and in that there is no known coherent alternative or any reason, empirical or conceptual, to suppose them inadequate. One should not, however, demand the kind of justification that in principle can never be provided.

In summary, I have so far outlined a certain general framework and a "standard theory" that develops this framework in a specific direction. Furthermore, the literature contains further elaborations of this standard theory, and many realizations of it with respect to particular languages (that is, fragments of grammars of specific languages constructed in terms of the standard theory). At each level, there are reasonable doubts that can be raised, and alternatives can be envisaged. It goes without saying that the investigation of these doubts and the study of alternatives can only be beneficial, in the long run, and should be actively pursued. It must also be kept in mind that at each level of discussion, justification can only go so far—in particular, that it can never be conclusive.

Given alternative formulations of a theory of grammar, one must first seek to determine how they differ in empirical consequences, and then try to find ways to compare them in the area of difference. It is easy to be misled into assuming that differently formulated theories actually do differ in empirical consequences, when in fact they are intertranslatable—in a sense, mere notational variants. Suppose, for example, that

puppy" is not subject to the latter two interpretations, though it might mean "puppy to which John (my misnamed pet) gave birth." On the other hand, it is hardly clear that it is a fact of language that people cannot create (or commission the creation of) puppies in the way in which they can pictures. Correspondingly, it is unclear whether one can assign to these phrases, by rules of grammar, a set of readings that determine how they figure in, say, correct inference. Or consider such a sentence as "I am not against *my father*, only against the *labor minister*," spoken recently by a radical Brazilian student. Knowing further that the speaker is the son of the labor minister, we would assign to this utterance a reading in which the italicized phrases are coreferential. On one reading, the sentence is contradictory, but knowing the facts just cited a more natural interpretation would be that the speaker is opposed to what his father does in his capacity as labor minister, and would be accurately paraphrased in this more elaborate way. It is hardly obvious that what we "read into" sentences in such ways as these—no doubt, in a fairly systematic way—can either be sharply dissociated from grammatically determined readings, on the one hand, or from considerations of fact and belief, on the other.

one were to modify the standard theory, replacing condition (3) by the condition that lexical items are inserted just prior to a transformation affecting the configuration in which they appear. Making this notion precise, we could devise an apparent alternative to the standard theory which, however, does not differ at all in empirical consequences, although the notion "deep structure" is not defined, at least in anything like the sense above.<sup>5</sup> Given the central character of this notion in the standard theory, the alternative would appear to be significantly different, though in fact it would be only a notational variant. There would be, in other words, no empirical issue as to which formulation is correct or preferable on empirical grounds. Before the standard theory can be compared with this modification, it is necessary to formulate both in such a way that there is an empirical distinction between them.

Similarly, suppose that one were to counterpose to the "syntactically-based" standard theory a "semantically-based" theory of the following sort. Whereas the standard theory supposes that a syntactic structure  $\Sigma$  is mapped onto the pair (P, S) (P a phonetic and S a semantic representation), the new theory supposes that S is mapped onto  $\Sigma$ , which is then mapped onto P as in the standard theory. Clearly, when the matter is formulated in this way,<sup>6</sup> there is no empirical difference between the "syntactically based" standard theory and the "semantically based" alternative. The standard theory generates quadruples (P, s, d, S) (P a phonetic representation, s a surface structure, d a deep structure, S a semantic representation). It is meaningless to ask whether it does so by "first" generating d, then mapping it onto S (on one side) and onto s and then P (on the other); or whether it "first" generates S (selecting it, however, one wishes, from the universal set of semantic representations), and then maps it onto d, then s, then P; or, for that matter, whether it "first" selects the pair (P, d), which is then mapped onto the pair (s, S); etc. At this level of discussion, all of these alternatives are equivalent ways of talking about the same theory. There is no general notion "direction of a mapping" or "order of steps of generation" to which one can appeal in attempting to differentiate the "syntactically-based" standard theory from the "semantically-based" alternative, or either from the "alternative view" which regards the pairing of surface structure and semantic interpretation as determined by the "independently selected" pairing of phonetic representation and deep structure, etc. Before one can seek to determine whether grammar is "syntactically-based" or "semantically-based" (or whether it is based on "independent choice" of paired phonetic representation and deep structure, etc.), one must first demonstrate that the alternatives are genuine and not merely variant ways of speaking in a loose and informal manner about the same

<sup>5</sup> We might assume that rules of semantic interpretation of the type proposed by Katz in many publications apply cyclically, in parallel with the rules of the cycle of syntactic transformations, assigning readings to successively "higher" nodes in the process. Thus semantic interpretation would, in effect, match that of the standard theory, though the notion of "deep structure" is not defined.

<sup>6</sup> As, for example, in Chafe (1967). Chafe also proposes to obliterate the distinction between syntax and semantics, but this, too, is merely a terminological issue, as he formulates it.

system of grammar. This is not so easy or obvious a matter as is sometimes supposed in recent discussion.

Perhaps the point can be clarified by reference to a discussion of Katz and Postal (1964, §5.4). Katz and Postal develop a variant of what I have called the standard theory, and then discuss how a model of speech production might be envisioned that incorporates a grammar of this sort. They outline a hypothetical procedure as follows: select a "message" which is a set of readings, i.e., of semantic representations in the sense discussed above. Select a syntactic structure  $\Sigma$  (in particular, what we have here called the deep structure  $d$  in  $\Sigma$ ) such that  $\Sigma$  maps onto  $s$  by the rules of semantic interpretation of the grammar. However this selection is accomplished, we may regard it as defining a mapping of  $s$  onto  $\Sigma$ , and in general, of semantic interpretations onto syntactic structures. Then, map  $\Sigma$  onto a speech signal, making use of the rules of phonological interpretation (giving the phonetic representation  $P$ ) and rules that relate the latter to a signal. Quite properly, Katz and Postal present this schematic description as an account of a hypothetical *performance* model. In such a model, it makes sense to speak of order of selection of structures, direction of a mapping, and so on. Suppose, however, that we were to interpret this account as an intuitive instruction for using the rules of the grammar to form quadruples  $(P, s, d, S)$ , i.e., for generating structural descriptions of sentences. Of course, in this case, the notion of "order of selection of structures" or "intrinsic direction of a mapping" would have no more than an intuitive, suggestive role; the informal instruction would be one of any number of equivalent instructions for using the rules of the grammar to form structural descriptions. To confuse the two kinds of account would be a category mistake. In short, it is necessary to observe the difference in logical character between performance and competence.

Suppose that we were to develop a modification of the standard theory along the following lines. Using the notation presented earlier the standard theory generates syntactic structures  $\Sigma = (P_1, \dots, P_i, \dots, P_n)$ , where  $P_1$  is a K-initial,  $P_i$  a deep, and  $P_n$  a surface structure,  $P_1$  being generated by the categorial component, and  $P_i$  formed by lexical insertion transformations that replace the substructure  $Q$  of  $P_1$  by a lexical item,  $Q$  always being the designated symbol  $\Delta$ .  $P_i$  is then mapped onto a semantic representation  $S$ . Suppose further that we regard  $S$  as itself a phrase-marker in some "semantically primitive" notation. For example, we may think of the lexical entry for "kill" as specifying somehow a phrase-marker *cause-to-die* that might be related to the phrase-marker that serves as the semantic representation of the phrase "cause to die."<sup>7</sup> Sup-

<sup>7</sup> The relation could not be identity, however. As has often been remarked, "causative" verbs such as "kill," "raise," "burn" (as in "John burned the toast"), etc., differ in meaning from the associated phrases "cause to die," "cause to rise," "cause to burn," etc., in that they imply a directness of connection between the agent and the resulting event that is lacking in the latter case. Thus John's negligence can cause the toast to burn, but it cannot burn the toast. Similarly, I can cause someone to die by arranging for him to drive cross-country with a pathological murderer, but I could not properly be said to have killed him, in this case. The point is discussed in Hall (1965).

pose now that in forming  $\Sigma$ , we construct  $P_1$  which is, in fact, the semantic representation of the sentence, and then form  $P_2, \dots, P_i$  by rules of lexical insertion, replacing a substructure  $Q$  which is the semantic representation of a lexical item  $I$  by  $I$ . For example, if  $P_1$  contains  $Q = \textit{cause-to-die}$ , the lexical entry for "kill" will permit  $Q$  to be replaced by  $I = \textit{"kill."}$  Similarly, the lexical entry for "murder" might indicate that it can be inserted by a lexical transformation for the substructure  $Q = \textit{cause-to-die-by-unlawful-means-and-with-malice-aforethought}$ , where the grammatical object is furthermore human; and the entry for *assassinate* might specify further that the object is characterized, elsewhere in the phrase-marker, as a reasonably important person; etc. Similarly, the lexical entry for "uncle" might specify that it can replace  $Q = \textit{brother of (father-or-mother)}$ . And so on, in other cases.<sup>8</sup>

Superficially, this new theory seems significantly different from the standard theory. Thus deep structures are not mapped into semantic representations in the same sense as in the standard theory; rather the converse is true. Furthermore, the rules of lexical insertion operate in a rather different manner, replacing substructures  $Q$ , which may be quite complex, by lexical items. We might ask, in such a theory, whether there is any natural break between "syntax" and "semantics." We might, in fact, define certain nonlexical transformations that apply in forming the sequence  $(P_1, \dots, P_i)$ , thus violating condition (3) and eliminating the notion "post-lexical structure," hence "deep structure," as defined earlier. Nevertheless, as I have so far formulated the alternatives, it is not at all clear that they are genuine alternatives. It must be determined whether the interpolated "non-lexical" transformations are other than inverses of rules of semantic interpretation, in the standard theory. Furthermore, it is unclear what difference there may be, on empirical grounds, between the two formulations of rules of lexical insertion. Again, before inquiring into the relative merit of alternative systems of grammar, it is necessary to determine in what ways they are empirically distinguishable. To establish that the systems are genuine alternatives, one would have to show, for example, that there is a difference between formulating the lexical insertion operations so that they insert *uncle* in place of the structure  $Q = \textit{brother of (father-or-mother)}$  (the terms of  $Q$  being "semantically primitive"), on the one hand, and on the other hand, formulating the rules of semantic interpretation so that they assign to "uncle" a position in the space of concepts (represented in terms of "semantic primitives") which is the same as that assigned, by rules of composition of the sort that Katz has discussed, to the phrase "brother of (father-or-mother)." If such a difference can be established, the theories might then be compared, in various ways. For example,

<sup>8</sup> Systems of this sort have been developed by McCawley in a number of interesting papers (see bibliography). The specific realizations of such systems proposed by McCawley are genuinely different, on empirical grounds, from the specific realizations of the standard theory that have been proposed for English. However, two questions can be raised: first, are the *systems* genuinely different, or are the genuine differences only in the realizations, which could, therefore, be translated into the other general systems of grammar; are the realizations suggested better or worse than the alternatives, on empirical grounds? I will return briefly to the former question, in a specific case.

one might compare the way in which such related concepts as "kill," "murder," "assassinate" are treated in the two systems, or one might inquire into the nature and generality of the various rules and principles that are presupposed. In general, one might try to show that certain phenomena are explicable in a general way in one system but not in the other. Again, this is not so simple a matter as is sometimes supposed, to judge by recent discussion.

Consider next the following modification of the standard theory. We consider a new set of structures *C* (for "case systems") which represent semantically significant relations among phrases such as the relation of agent-action in (4) and of instrument-action as in (5):

(4) John opened the door

(5) the key opened the door

Suppose we were to assume, in a realization of the standard theory, that the deep structures of (4) and (5) are identical except for lexical entries. Then these deep structures, it might be argued, do not represent the required relations. For example, as grammatical relations are defined in Chomsky (1965), the subject-predicate relation is the relation that holds between "John" and "opened the door" in (4) and between "the key" and "opened the door" in (5); hence the relations of agent-action and instrument-action are not differentiated. Let us therefore construct the structures *C*<sub>1</sub> and *C*<sub>2</sub> of *C* as follows:

(6) *C*<sub>1</sub>: ([V, *open*], [Agent, *John*], [Object, *the door*])

(7) *C*<sub>2</sub>: ([V, *open*], [Instrument, *the key*], [Object, *the door*])

Suppose that the grammar contains a component that generates such structures as *C*<sub>1</sub> and *C*<sub>2</sub> and rules that map these onto phrase-markers; for example, the main rule might say that the item specified as Agent takes the position of subject (in the sense of the standard theory), and if there is no Agent, this position is occupied by the Instrument, etc. Formalizing these ideas, we might develop a theory in which *C* is mapped onto a class of phrase-markers which are K-initial in the sense described earlier, further operations being as the standard theory. However, we drop condition (3) and relate the lexicon and the rules of semantic interpretation directly to *C*.<sup>9</sup>

Are case systems, so described, empirically distinguishable from the standard system?

<sup>9</sup> Case systems of this sort are developed in an important paper by Charles Fillmore (1968). As in the case of notes 7 and 8, we may ask (i) whether case systems are genuinely distinct from the standard system, or intertranslatable with it; (ii) whether the specific realizations proposed by Fillmore differ empirically from the specific realizations that have been proposed for the standard system; (iii) if so, how do they compare on empirical grounds? As to the second question, the answer is surely positive. Thus Fillmore's specific proposals do not permit any transformation (e.g., question or relative formation) to apply prior to such transformations as passive, indirect-object-inversion, and others that have been proposed in standard transformational grammars, and there are other specific differences. A serious discussion of question (iii) would take us too far afield. As Fillmore develops these systems, rules of semantic interpretation relate directly both to *C* and to the K-initial structures onto which elements of *C* are mapped, since this operation is not "meaning preserving," in the sense that sentences derived from the same element *ceC* may, as Fillmore observes, differ in meaning.



It is not at all obvious. Thus consider the example just given. It was argued that if (4) and (5) have the same deep structure, apart from lexical entries (let us put aside the question whether this is correct), then the relations indicated in (6) and (7) are not represented in these deep structures. However, this argument depends on an assumption, which need not be accepted, regarding rules of semantic interpretation. In fact, the rules mapping  $C_1$  and  $C_2$  onto the deep structures of (4) and (5), respectively, can be interpreted as rules of semantic interpretation for these deep structures. Thus one rule (probably universal) will stipulate that for verbs of action, the animate subject may be interpreted as the agent; etc. Various qualifications are needed whether we interpret these rules as rules of semantic interpretation or as rules mapping  $C$  onto  $S$ ; I see very little difference between them, at this level of discussion, and the same seems to me true in many more complex cases. It might be argued that the case system expresses these facts in a "direct way" whereas the standard system does so only "indirectly."<sup>10</sup> The distinction seems to me meaningless. Without principles of interpretation, a formal system expresses nothing at all. What it expresses, what information it provides, is determined by these principles.

A good part of the critique and elaboration of the standard theory in the past few years has focussed on the notion of deep structure and the relation of semantic representation to syntactic structure. This is quite natural. No area of linguistic theory is more veiled in obscurity and confusion, and it may be that fundamentally new ideas and insights will be needed for substantial progress to be made in bringing some order to this domain. I want to investigate one kind of revision of the standard theory that bears directly on the relation of syntax and semantics, but before doing so, I would like to consider briefly one kind of critique of the standard theory—specifically, concerning the status of deep structure—that seems to me to have been, so far, without consequence, though the general approach is quite legitimate and perhaps hopeful. I have in mind a critique analogous to that developed by Halle and others against the concept of the phoneme, a number of years ago. Halle argued that a generative grammar could provide a level of phonemic representation, in the sense of structural linguistics, only by abandoning otherwise valid generalizations. Analogously, one might ask whether the requirement that deep structures exist in the sense of the standard theory (see p. 54, above) is compatible with otherwise valid generalizations. A negative answer would be highly interesting, and the matter therefore deserves serious investigation. A number of papers have dealt with this matter, but, I think, so far unsuccessfully.

McCawley purports to present such an argument in McCawley (in press, postscript).<sup>11</sup>

<sup>10</sup> Similar arguments, equally specious, have been given in support of the view that grammatical relations must be "directly represented" in underlying structures.

<sup>11</sup> I omit here certain aspects of McCawley's argument that seem to me to impose serious difficulties of interpretation. Not the least of these difficulties is the theory of referential indices that McCawley proposes. To mention just the most serious problem, the idea that every noun phrase must have an intended reference, somehow specified in the underlying structure, seems unreconcilable with the fact

He considers the following expressions:

- (8)  $Ax: x \in \{\text{John, Harry}\} [x \text{ loves } x\text{'s wife}]$
- (9) John loves John's wife and Harry loves Harry's wife
- (10) John and Harry love John's wife and Harry's wife, respectively
- (11) John and Harry love their respective wives
- (12)  $Ax: x \in M [x \text{ loves } x\text{'s wife}]$
- (13) these men love their respective wives
- (14) that man (x) loves Mary and that man (y) loves Alice
- (15) that man (x) and that man (y) love Mary and Alice respectively
- (16) those men love Mary and Alice respectively

He proposes that (8) and (12) be taken as (approximately) the semantic interpretations of (11) and (13) respectively (where A is the universal quantifier and M is the class of these men). He states further that the transformation which produces (10)<sup>12</sup> is "involved in" the derivation of (11). This transformation, the "*respectively*-transformation," relates (8) to (11), relates (12) to (13), and relates (14) to (16). McCawley furthermore rejects the idea of regarding such sentences as (13) as derived from conjunctions—quite properly: if for no other reason, consider what this proposal would entail for "the real numbers are smaller than their respective squares." Furthermore, (16) "arise[s] from [our (14)] by the *respectively*-transformation," which also maps (17) into (18):

- (17) that man (x) loves Mary and that man (x) loves Alice
- (18) that man (x) and that man (x) love Mary and Alice, respectively

The rule of noun phrase collapsing maps (15) into (16) and (18) into (19):

- (19) that man loves Mary and Alice

Presumably, then, McCawley intends that the *respectively*-transformation, which is "involved in" the derivation of (11) from (8), in fact maps (9) into (10) exactly as it maps (14) into (15) and (17) into (18). Combining these various comments, McCawley seems to have in mind the following organization of operations:

- $$\begin{array}{c}
 \text{I} \quad \quad \text{R} \quad \quad \text{R}' \\
 (20) \quad (8) \rightarrow (9) \rightarrow (10) \rightarrow (11) \\
 \quad \quad \quad \text{I}' \\
 \quad \quad (12) \rightarrow (13)
 \end{array}$$

that I may perfectly well use noun phrases where I know that there is no reference at all and hence intend no reference (e.g., "if you are looking for the fountain of youth, you won't find it here," "he is looking for a man who is taller than himself," etc.). The idea of trying to incorporate "intended reference" in syntax seems to me misguided. It may clarify matters to point out that in Chomsky (1965), to which McCawley refers in this connection, it is not proposed that reference (actual or intended) be incorporated into syntax, but rather that "referential expressions" be indexed in a way relevant to the operation of certain syntactic rules, and that the rules that assign semantic interpretation to syntactic structures refer to identity of indices in determining sameness of intended reference. This may or may not be a useful idea, but it is very different from McCawley's proposal that the intended reference of a noun phrase be specified in the grammar by an index, or in his terms, that the index "be" the intended reference.

<sup>12</sup> That is, the "transformation which produces the sentence (145): 'John and Harry love Mary and Alice respectively'", which differs from (10) in deep structure, according to him, only in that where (10) "has *John's wife* and *Harry's wife*, (145) had *Mary* and *Alice*."

$$\begin{array}{ccc} & R & C \\ (14) & \rightarrow (15) & \rightarrow (16) \end{array}$$

$$\begin{array}{ccc} & R & C \\ (17) & \rightarrow (18) & \rightarrow (19), \end{array}$$

where I and I' are two rules, apparently entirely distinct, relating expressions with quantifiers to phrase-markers of the usual sort; R is a transformation forming sentences with "respectively"; R' is a subsequent transformation that forms noun phrases with "respective"; and C is the rule of noun phrase collapsing.

Having presented this material, McCawley argues as follows. In a standard theory the relation of (8) to (11) and the relation of (12) to (13) must be regarded as semantic (since it involves "a relationship between a representation involving quantifiers and bound variables and a representation involving ordinary noun phrases"), whereas the relation between (14) and (16) (or (17) and (19)) is syntactic, namely, it is expressed by the transformation of conjunction-reduction. McCawley then concludes, without further argument, "that *respectively* can not be treated as a unitary phenomenon in a grammar with a level of deep structure and that that conception of grammar must be rejected" in favor of a "semantically-based" theory. This argument is held to be analogous to Halle's argument against the level of phonemic representation.

Even if we accept McCawley's analysis *in toto*, no conclusion follows with respect to the concept of deep structure. His argument is based on an equivocation in the use of the notion "*respectively*-transformation," and collapses when the equivocation is removed. Thus if we use the term "*respectively*-transformation" to refer to the relation of (8) to (11), (12) to (13), (14) to (16), and (17) to (19), then this "transformation" does, as he says, relate semantic to syntactic representations in the first two cases, and syntactic representations to syntactic representations in the latter two. But in the analysis he proposes, namely (20), the "*respectively*-transformation" carries out four totally different operations; hence it does not express a "unitary phenomenon." If, on the other hand, we use the term "*respectively*-transformation" to denote R of (20), then it does express a "unitary phenomenon," but it no longer relates semantic to syntactic representation in one case and syntactic to syntactic representation in the other. In fact, (20) can be formulated in the standard theory, if we take I and I' to be inverses of rules of semantic interpretation, and R, R' and C to be syntactic transformations. Therefore McCawley's analysis, right or wrong, is simply a realization of the standard theory, once equivocations of terminology are removed. Consequently, it shows nothing about the level of deep structure. Furthermore, it does not treat the phenomena in question in a "unitary" manner, since no relation is proposed between I and I'.<sup>13</sup>

I have analyzed McCawley's argument in some detail, both because it is now often

<sup>13</sup> A very different interpretation of these phenomena, in a somewhat modified version of the standard theory, is presented in Dougherty (1968a). Dougherty's version of the standard theory is close enough to it so that his analysis can be compared on empirical grounds with McCawley's, which is, so far as I can see, entirely within the standard theory (if we drop the matter of indices as intended referents).

referred to as demonstrating the impossibility of incorporating the concept of deep structure in a generative grammar, and because this analysis illustrates clearly some of the difficulties in constructing a genuine alternative to the standard theory.

McCawley observes, quite correctly, that it is necessary to provide some justification for the hypothesis of an "intermediate" level of deep structure: "there is no a priori reason why a grammar could not instead<sup>14</sup> consist of, say, a 'formation rule' component which specifies the membership of a class of well-formed semantic representations, and a 'transformational component' which consists of rules correlating semantic representations with surface syntactic representation . . ." The same might be said about "surface structure," "semantic representation" and "phonetic representation." There is only one way to provide some justification for a concept that is defined in terms of some general theory, namely, to show that the theory provides revealing explanations for an interesting range of phenomena and that the concept in question plays a role in these explanations. In this sense, each of the four concepts just mentioned, along with the notion of grammatical transformation and a number of others, receives some justification from the linguistic work that is based on grammars of the standard form. Of course, there is no a priori reason why the standard theory should be correct, so far as it goes in specifying the form of grammar; in fact, I will argue later that it is not. I fail to see what more can be said, at the level of generality at which McCawley develops his critique.

Lakoff has approached the same question—namely, whether deep structures can be defined in the sense of the standard theory without loss of significant generalization—in a more tentative way, in an interesting paper on instrumental adverbs (Lakoff, 1968). He considers such sentences as (21) and (22)

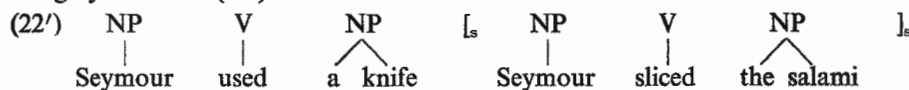
(21) Seymour sliced the salami with a knife

(22) Seymour used a knife to slice the salami

and gives a number of arguments to show that despite differences of surface structure, the same grammatical and selectional relations appear in these sentences. He argues that the two must have the same, or virtually the same representations in deep structure if selectional features and grammatical relations are to be statable in terms of deep

<sup>14</sup> The word "instead," however, begs a number of questions, for reasons already noted. Thus in describing the standard theory one might refer to the deep structures as "well-formed semantic representations," associating each with the class of readings into which it can be mapped by rules of semantic interpretation. Similarly, one might regard McCawley's "semantic representations," which, he proposes, be represented as phrase-markers, as nothing other than the deep structures of the standard theory, the "formation rules" being the rules of the categorial component that form K-initial structures and the lexical rules that form deep structures from them by lexical insertion. McCawley in fact assumes that mutually deducible sentences may have different "semantic representations" (in his sense), these being related by "logic," a concept not further specified. To formulate his proposal in the standard theory, we might then take "logic" to incorporate the rules of semantic interpretation (which express the "logic of concepts," in one traditional use of this term). In this respect too he fails to differentiate his theory from the standard theory. McCawley discusses some of these questions in (1968a), but inconclusively, I think, in part for reasons mentioned above on p. 59.

structures, in anything like the sense of the standard theory. He suggests at various points that (22) is much closer to this common deep structure than (21); consequently, instrumental adverbs do not appear in deep structure, and the grammatical relations and selectional features must be associated, for both (21) and (22), with deep structures of roughly the form (22'):



Alternatively, the concept of deep structure, in the sense of the standard theory, must be abandoned.

Lakoff's argument is indirect; he does not propose underlying structures or grammatical rules, but argues that whatever they are, they must meet a variety of conditions in an adequate grammar, these conditions suggesting either a deep structure such as (22') or the abandonment of the notion deep structure. He points out that if (22') underlies (21), then deep structures must be quite abstract, since (21), which contains only one verb, is based on a structure with an embedded sentence and hence with two verbs. In either case, it would be fair to conclude that a departure from the standard theory is indicated.<sup>15</sup>

However, the argument is weakened—I think, vitiated—by the fact that a number of structures are omitted from consideration that seem highly relevant to the whole matter.<sup>16</sup> Thus alongside of (21) and (22), we have such sentences as (23)–(26):

<sup>15</sup> In the case of the double verb, what is a departure from more familiar formulations is that in this proposal, the verb *slice* in an embedded underlying sentence becomes the main verb, and the main verb *use* is deleted. On the other hand, it has been suggested many times, in realizations of the standard theory, that items that are in some sense relatively "empty" of semantic content (such as "be," "have," "use," etc.) may be deleted from embedded sentences.

<sup>16</sup> There are also quite a number of relevant factual questions that might be raised. Thus Lakoff assumes that (21) and (22) are synonymous. This is not obvious; compare "John carelessly broke the window with a hammer," "John broke the window carelessly with a hammer," "John carelessly used a hammer to break the window," "John used the hammer carelessly to break the window." The differences of meaning suggest a difference in the meaning of the sentences from which the adverb is omitted. Similarly, consider the many sentences in which "use" and "to" have the sense appropriate to this discussion, but which do not correspond to sentences with instrumental adverbs: e.g., "John used his connections to further his career," "John used the classroom to propagandize for his favorite doctrines," "John used the mallet over and over again to reduce the statue to rubble." Or consider such sentences as (A): "John used this hammer and that chisel to sculpt the figure." Believing (A), one would be entitled to give a positive answer to the question "did John use that chisel to sculpt the figure?" but not to: "did John sculpt the figure with that chisel?" The matter is even clearer if we consider "John used this hammer and that chisel in sculpting the figure," which Lakoff considers synonymous with (A)—see p. 12 of his paper.

See Bresnan (1968), for other relevant arguments.

A full analysis would have to bring much other evidence to bear—e.g., such sentences as "Seymour sliced the salami without (using) a knife," which are not paired with anything like (22), and which suggest that insofar as the deep structures are common, it may be that "use" is embedded below "slice" in (21), rather than conversely, as Lakoff suggests.

I do not see how these questions can be resolved without undertaking an analysis of these structures which does propose rules as well as underlying structures, and in this sense, goes well beyond the approach to these questions that Lakoff presents.

- (23) Seymour used the knife to slice the salami with
- (24) Seymour used this table to lean the ladder against
- (25) Seymour used this table to write the letter on
- (26) Seymour used this car to escape (make his getaway) in

Such facts as these suggest that underlying (22) is a structure such as (27):

- (27) Seymour used a knife [<sub>s</sub>Seymour sliced the salami with a knife]<sub>s</sub>  
 Seymour used this table [<sub>s</sub>Seymour leaned the ladder against this table]<sub>s</sub>

The latter might then be compared with such sentences as "Seymour used the knife for a strange purpose," "... in a strange way," etc. To form (23)–(26), a deletion operation will delete the final NP in the embedded sentence of (27) (an operation analogous, perhaps, to the one used in deriving "meat is good to eat"). The preposition "with," furthermore, can optionally be deleted, giving (21) from (23). In (24), "against" cannot be deleted, but the corresponding prepositions can optionally be deleted (in some styles at least) in (25) and (26), giving (28) and (29) which do not correspond at all to (30) and (31), respectively:

- (28) Seymour used this table to write the letter, this is the table that Kant used to write the *Critique*, etc.
- (29) Seymour used this car to escape (make his getaway)
- (30) Seymour wrote the letter with this table
- (31) Seymour escaped (made his getaway) with this car [rather, "in this car"]

Very likely, a still more satisfactory analysis can be given, taking other data into account—see note 16. However, the relevant point here is that a wider range of data than Lakoff considered suggests an underlying structure such as (27) for (22); and if this is the case, then the major problems that Lakoff raises dissolve, as can be seen by checking case by case.<sup>17</sup> In particular, deep structures for (21) and (22), though not identical in

<sup>17</sup> In some cases, an explanation can be suggested for facts that would require arbitrary stipulation were the underlying structure to be taken as (22')—e.g., the fact that the complement of "use" may not contain an instrumental adverb—see p. 21 of Lakoff, *op. cit.* Many of the interesting phenomena that Lakoff notes still demand explanation, of course, but this fact does not help choose among the alternatives, since no explanation or even satisfactory descriptive account is offered in either case.

It is perhaps worth mentioning that the rather similar analysis of manner adverbials presented in Lakoff (1965) is also quite unpersuasive on factual grounds. Lakoff argues that the manner adverbials too are derived from "higher predicates," with sentence (i), for example, serving as an approximate source of (ii):

- (i) John is reckless in hanging from trees
- (ii) John hangs from trees recklessly

However, (i) is clearly ambiguous, having either the approximate sense of ( $\alpha$ ) or ( $\beta$ ):

- ( $\alpha$ ) John is reckless in that he hangs from trees
- ( $\beta$ ) John is reckless in the way he hangs from trees

Sentence (ii) has only the interpretation ( $\beta$ ). But ( $\beta$ ) itself no doubt derives from something of the form ( $\gamma$ ), in which the embedded sentence would be something like ( $\delta$ ), which contains a manner adverbial—in place of "in that way" one might have "in a reckless way," "in a way that is reckless," "recklessly."

- ( $\gamma$ ) John is reckless in the way in which he hangs from trees
- ( $\delta$ ) John hangs from trees in that way

Hence it appears that rather than (i) underlying (ii), it is more likely that something like ( $\alpha$ ) and ( $\gamma$ )

this analysis, would nevertheless express the required selectional and grammatical relations in a unified way. And none of Lakoff's general conclusions with regard to deep structure follow if this analysis, or something like it, is correct.

Turning to a somewhat different matter, let us consider once again the problem of constructing a "semantically-based" theory of generative grammar that is a genuine alternative to the standard theory. Reviewing the observations made earlier, the standard theory has the general structure indicated in (32), where  $P_1$  is the K-initial phrase-marker,  $P_i$  the deep structure, and  $P_n$  the surface structure of  $\Sigma \in K$ , and where  $P$  is a phonetic and  $S$  a semantic representation:

$$(32) \quad \Sigma = (P_1, \dots, P_i, \dots, P_n) \\ \qquad \qquad \qquad \downarrow \qquad \qquad \downarrow \\ \qquad \qquad \qquad S \qquad \qquad P$$

$S$  is determined from  $P_i$  by rules of semantic interpretation, and  $P$  from  $P_n$  by phonological rules. Only operations of lexical insertion apply prior to  $P_i$ , and none apply subsequently;  $P_1$  is generated by the categorial component of the base. Each element of  $\Sigma$  is formed from the preceding one by a transformation, the exact effect of each transformation being determined, by general conditions, by the position of this operation in the sequence of transformational operations that generates  $\Sigma$ . The grammar generates quadruples  $(S, P_i, P_n, P)$ . As emphasized earlier, there is no precise sense to the question: which of these is selected "first" and what is the "direction" of the relations among these formal objects. Consequently, it is senseless to propose as an alternative to (32) a "semantically-based" conception of grammar in which  $S$  is "selected first" and then mapped onto the surface structure  $P_n$  and ultimately  $P$ .

Consider once again a theory such as that proposed by McCawley in which  $P_1$  is identified with  $S$  and condition (3) is dropped so that "deep structure" is undefined. Let us consider again how we might proceed to differentiate this formulation—let us call it "semantically-based grammar"—from the standard theory. Consider such expressions as (33)–(35):

(33) John's uncle

(34) the person who is the brother of John's mother or father or the husband of the sister of John's mother or father

---

underlie (i) and only (7) underlies (ii), where (7) contains an embedded structure like (8) with an inherent manner adverbial.

Notice that in (iii) and (iv) the interpretation is along the lines of ( $\alpha$ ), in (v) it is along the lines of ( $\beta$ ), and in (vi) it is ambiguous as between ( $\alpha$ ) and ( $\beta$ ):

(iii) clumsily, John trod on the snail

(iv) John trod on the snail, clumsily

(v) John trod on the snail clumsily

(vi) John clumsily trod on the snail.

The examples are discussed in Austin (1956–7). Such sentences as "John stupidly stayed in England" are unambiguously interpreted along the lines of ( $\alpha$ ), and, correspondingly, the analogue to (v) is ungrammatical. These facts can be accommodated by an approach that takes ( $\alpha$ ) and (7) as approximating the underlying sources, but they do not appear consistent with Lakoff's analysis.

- (35) the person who is the son of one of John's grandparents or the husband of a daughter of one of John's grandparents, but is not his father

If the concept "semantic representation" ("reading") is to play any role at all in linguistic theory, then these three expressions must have the same semantic representation. But now consider the context (36):

- (36) Bill realized that the bank robber was—

and the sentences  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$  formed by inserting (33), (34), (35), respectively, in (36). Evidently, the three sentences  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$  are not paraphrases; it is easy to imagine conditions in which each might be true and the other two false. Hence if the concept "semantic representation" (or "reading") is to play any serious role in linguistic theory, the sentences  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$  must have different semantic representations (readings). Many such examples can be constructed. The basic point is that what one believes, realizes, etc.,<sup>18</sup> depends not only on the proposition expressed, but also on some aspects of the form in which it is expressed. In particular, then, people can perfectly well have contradictory beliefs, can correctly be said to fail to realize that  $p$  even though (in another sense) they know that  $p$ , to be aware that  $p$  but be unaware that  $q$  where  $p$  and  $q$  are different expressions of the same proposition, etc. Notice that there is nothing in the least paradoxical about these observations. It is the function of such words as "realize," "be aware of," etc. to deal with such situations as those just described, which are perfectly common and quite intelligible.

Given these observations, let us return to the standard and semantically-based theories. In the standard theory, (33), (34), and (35) would derive from three different deep structures, all mapped onto the same semantic representation. To assign a different meaning to  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$ , it is necessary to define "realize" (i.e., assign it intrinsic lexical semantic properties) in such a way that the meaning assigned to "NP realizes that  $p$ " depends not only on the semantic interpretation of  $p$  but also on the deep structure of  $p$ . In the case in question, at least, there is no contradiction in this requirement, though it remains to meet it in an interesting way.

In the case of the semantically-based theory this alternative is of course ruled out. In fact, within the framework of this theory it is impossible to accept all of the following conditions on K-initial structures (semantic representations, in this formulation):

- (37) At the level of K-initial structures:
- (i) (33), (34), (35) have the same representation
  - (ii)  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$  have different representations
  - (iii) the representation of (36) is independent of which expression appears in the context of (36) at the level of structure at which these expressions (e.g., (33)–(35)) differ

<sup>18</sup> Similarly, what one can prove, demonstrate, etc. The observation is due to Mates (1950). Schefler (1955) discusses the matter more generally, and argues that no analysis of synonymy can suffice to explain the possibilities for substitution *salva veritate* in indirect discourse. There has been considerable discussion of these matters, but nothing, so far as I know, to affect the point at issue here.



In the semantically based theory, these three conditions lead to a contradiction; by (37ii), the sentences  $S_{33}$ ,  $S_{34}$ ,  $S_{35}$  differ in semantic representation (representation at the level of K-initial structures), whereas (37i) and (37iii) imply that they must be represented identically at this level, the differences of surface form being determined by optional rules that map semantic representations onto linguistic expressions. In the standard theory, the contradiction does not arise. The analogues of (37) are simultaneously satisfied by (i) rules which assign the same semantic interpretation to (33)–(35); (ii) rules which make reference to the deep structure of the item appearing in the context of (36) in determining the meaning. Condition (37iii) then poses no problem.

To reject (37i) or (37ii) is to abandon the semantically-based theory (or to deny the facts), since K-initial structures will no longer have the properties of semantic representations. Therefore it is necessary to reject (37iii), and to assume that the representation of (36) at the level of K-initial structures (semantic representations) depends on not just the meaning but also the form of the expression that appears ultimately in the context of (36). But to make this move<sup>19</sup> is in effect to accept the standard theory in a confusing form; differences in deep structure will determine differences of semantic interpretation. In any case, then, the semantically-based alternative collapses.

As far as I can see, an argument of this sort can be advanced against any variety of semantically-based grammar (what is sometimes called "generative semantics") that has been discussed, or even vaguely alluded to in the linguistic literature. One has to put this tentatively, because many of the proposals are rather vague. However, at least this much is clear. Any approach to semantically-based grammar will have to take account of this problem.

Do considerations of this sort refute the standard theory as well? The example just cited is insufficient to refute the standard theory, since (33)–(35) differ in deep structure, and it is at least conceivable that "realize" and similar items can be defined so as to take account of this difference. Interesting questions arise when the matter is pursued further. Thus is it possible for someone to realize that John is believed to be incompetent by everyone without realizing that everyone believes John to be incompetent, or to realize that Bill saw John but not that John was seen by Bill? Or, suppose that John happens to speak a language just like English in relevant respects, except that it has no word translatable as *uncle*. What, then, is the status of  $S_{33}$  as compared to  $S_{34}$  and  $S_{35}$ ? Or, consider such sentences as "everyone agrees that if John realizes that  $p$ , then he realizes that—," where the space is filled either by  $p$  itself or by an expression  $q$  distinct from but synonymous with  $p$ . No doubt the truth value may change, as  $q$  replaces  $p$ , indicating that any difference of form of an embedded sentence can, in certain cases at least, play a role in the statement of truth conditions, hence, presumably, the determination of meaning. It remains to be determined whether there is some interesting subclass of such cases in which differences of deep structure suffice to account for

<sup>19</sup> Assuming, that is, that it is possible to give it an intelligible formulation.

the meaning differences, as the standard theory would require. If this could be shown, then the standard theory could still be maintained in a modified form: namely, except for cases in which *any* aspect of form may play a role in determining meaning. Instead of pursuing such questions as this, however, I would like to turn to another set of problems that seem to pose serious difficulties for the standard theory (and, a fortiori, for any variant of "generative semantics"). I have in mind cases in which semantic interpretation seems to relate more directly to surface structure than to deep structure.<sup>20</sup>

Consider such sentences as (38):

- (38) (a) is it JOHN who writes poetry?  
(b) it isn't JOHN who writes poetry

Under normal intonation<sup>21</sup> the capitalized word receives main stress and serves as the point of maximal inflection of the pitch contour. A natural response to (38) might be, for example, (39):

- (39) No, it is BILL who writes poetry

The sentence (39) is a possible answer to (38a) and corroboration of (38b). The semantic representation of (38) must indicate, in some manner, that "John" is the *focus* of the sentence and that the sentence expresses the *presupposition* that someone writes poetry. In the natural response, (39), the presupposition of (38) is again expressed, and only the focus differs. On the other hand, a response such as (40) does not express the presupposition of (38):<sup>22</sup>

<sup>20</sup> The material in the remainder of this paper is drawn in large part from lectures given in Tokyo, in the summer of 1966, and prior to that, at MIT and UCLA. I am indebted to many of those who attended for comments and suggestions. Many of these and related topics are discussed by Kraak (1967), where rather similar conclusions are reached independently. I will not consider here some intricate but quite relevant considerations presented in Partee (1968).

<sup>21</sup> The concept "normal intonation" is far from clear, but I will not try to explicate it here. I am assuming that the phonological component of the grammar contains rules that assign an intonation contour in terms of surface structure, along the lines discussed in Chomsky and Halle (1968). Special grammatical processes of a poorly-understood sort may apply in the generation of sentences, marking certain items (perhaps, even syllables of lexical items) as bearing specific expressive or contrastive features that will shift the intonation center, as in "is it John who writes POETRY?" or "is it John who WRITES poetry," etc. I am assuming that no such processes apply in (38). Sentences which undergo these processes are distinct in semantic interpretation, and perhaps in syntactic properties as well. Given the obscure nature of these matters, it is difficult to say anything more definite. The matter is further obscured by the fact that these processes, however they are to be described, may assign an extra-heavy stress and extra-dominant pitch to the item that would serve as intonation center under normal intonation—i.e., in the case where these processes do not apply. Quite possibly, these processes are to be described in general as superimposing a new contour on the normal one. Thus in "It ISN'T John who writes poetry," the word "John" retains its intonational prominence with respect to the following phrase, exactly as under normal intonation.

<sup>22</sup> A response such as (40) does not deny the presupposition of (38), but rather its relevance. Again, these matters are far from clear, and deserve much fuller study than they have so far received. There is no reason to suppose that a satisfactory characterization of focus and presupposition can be given in purely grammatical terms, but there is little doubt that grammatical structure plays a part in specifying them. For some discussion of these matters in the case of cleft sentences such as (38), see Akmajian (1968).

(40) No, John writes only short STORIES

In the case of (38), the underlying deep structure might be something like (41):<sup>23</sup>

(41) [the one who writes poetry] is John

If so, then it would be natural to try to determine the focus and presupposition directly from the deep structure, in accordance with the standard theory, the focus being the predicate of the dominant proposition of the deep structure. Alternatively, one might propose that the focus is determined by the surface structure, namely, as the phrase containing the intonation center.

Consider next (42):

(42) (a) does John write poetry in his STUDY?

(b) is it in his STUDY that John writes poetry?

(c) John doesn't write poetry in his STUDY

(d) it isn't in his STUDY that John writes poetry

Again, a natural response might be (43):

(43) No, John writes poetry in the GARDEN

The sentences of (42) have as focus "study" (or "in his study") and express the presupposition that John writes poetry somewhere, a presupposition also expressed in the normal response (43). To accommodate these facts within the standard theory, we might take (42b) and (42d) to have a deep structure rather like (41), with the predicate of the dominant sentence being "in his study," say (44):

(44) the place where John writes poetry is in his study

Again, the predicate expresses the focus and the embedded sentence the presupposition. To extend this analysis to (42a) and (42c), we would have to argue that the underlying structure of "John writes poetry in his study" is also something like (44), contrary to what is assumed in Chomsky (1965) and many earlier realizations of the standard theory, in which the phrase "in the study" is taken to be an adverbial modifier in a deep structure containing only one clause.<sup>24</sup>

<sup>23</sup> Following Akmajian, *ibid.* Alternatively, one might argue that the deep structure is of the form: "[it-one writes poetry] is John," with the rule of extraposition giving "it is John who writes poetry." The difference is immaterial, in the context of this discussion.

<sup>24</sup> This and related proposals are developed, on essentially these grounds, in Lakoff (1965). In more recent publications, other evidence has been cited to support an analysis along the lines of (44) for sentences like (42a), (42c). Thus Lakoff (1967) points out that we can say such things as "Goldwater won in Arizona, but it couldn't have happened in New York," where "it" refers to Goldwater's winning, suggesting that "Goldwater won" is a sentential element in deep structure. However, the force of this argument is weakened by the fact that it would, if followed consistently, also lead us to the conclusion that in simple NVN sentences, the subject and verb constitute a sentence in deep structure (cf. "John turned the hot dog down flat, but it (that) wouldn't have happened with filet mignon"; "half the class flunked physics, which would never have happened in English Literature"). Not only is this an unsatisfactory consequence in itself, but it also leads to an apparent contradiction since the same argument yields the conclusion that the verb and object constitute a sentence (cf. "John turned the hot dog down flat, but it wouldn't have happened with Bill (as recipient)"; "half the freshman class flunked physics, which would never have happened with the senior class"). Similarly, we would have to conclude that in the sentence "10 errors were committed by the Red Sox and the Yankees in the game yesterday,



presupposition as determined by the intonation center of surface structure. According to this conception, the focus of (45a) can be taken as any of the phrases (51), and the corresponding presupposition is expressed by replacement of the focus by a variable:

- (51) (i) an ex-convict with a red shirt  
 (ii) with a red shirt  
 (iii) a red shirt  
 (iv) shirt

all of the phrases of (51) contain the intonation center in (45a); hence each, in this conception, can be taken as focus. Correspondingly, any of (52) can be a natural response:

- (52) (i) No, he was warned to look out for an AUTOMOBILE salesman  
 (ii) No, he was warned to look out for an ex-convict wearing DUNGAREES  
 (iii) No, he was warned to look out for an ex-convict with a CARNATION  
 (iv) No, he was warned to look out for an ex-convict with a red TIE

But (50b) and (50c) are not natural responses preserving presupposition in this sense. Similar comments apply to (45b) and (45c).

To shed further light on the matter, consider the sentences (53), which are related to (45a) as (42a, c) are related to (42b, d):

- (53) {  $\left\{ \begin{array}{l} \text{was he} \\ \text{he wasn't} \end{array} \right\}$  (warned to look out for (an ex-convict (with (a red (SHIRT))))))

The phrases enclosed in paired parentheses are the phrases containing the intonation center (certain questions of detail aside). Each of these phrases can be taken as the focus of the sentence, so that natural responses would include, in addition to (52), the following:

- (54) (i) No, he was warned to expect a visit from the FBI  
 (ii) No, he was simply told to be more cautious  
 (iii) No, nothing was said to anyone<sup>25</sup>

In each case, the presupposition can be determined by replacing what is taken as focus by an appropriate variable. There may be no actual sentence expressing just this presupposition, for grammatical reasons, just as there is no cleft sentence corresponding to the choice of focus, in many cases (hence the qualification of p. 72). For example,

<sup>25</sup> For naturalness, question and answer (or denial and corroboration) must not only share presuppositions, but also must use as focus items that are somehow related—exactly how is not clear, but the relation surely involves considerations that extend beyond grammar. Similar considerations arise in the case of natural coordination. For this reason, a pairing of sentences that might be expected on the formal grounds we are discussing may still not be natural, in the intuitive sense we are attempting to explicate. In other words, as in the case of coordination, grammatical (including semantic) considerations can suffice only for partial explication of certain intuitions that clearly involve other cognitive structures as well. Thus—to take a concrete example—if we were to rank sentences in order of naturalness as responses to (55), we would rank (56a) higher than ( $\alpha$ )=“No, he is certain to drink BEER” or ( $\beta$ )=“No, he is EXPECTED to win.” However, if the present argument is correct, the nonnaturalness of ( $\alpha$ ) as a response to (55) is a matter of pairing of foci, whereas the nonnaturalness of ( $\beta$ ) is a matter of determination of focus by intonation center.

(45a) can be interpreted with "shirt" as focus (so that (50a) is a natural response), but there is no grammatical sentence "it was SHIRT that he was warned to look out for an ex-convict with a red." Similarly, there is no grammatical sentence expressing exactly the presupposition of (45a) with the phrase "with a red shirt," taken as focus.

Observe, in fact, that the focussed phrase need not correspond to a phrase of deep structure at all. This is clear in the case of (53), or, in a simpler case, (55):

- (55)  $\left\{ \begin{array}{l} \text{is John} \\ \text{John isn't} \end{array} \right\}$  (certain (to WIN)))

Natural responses would be any of (56):

- (56) (a) No, John is certain to LOSE  
(b) No, John is likely not even to be NOMINATED  
(c) No, the election will never take PLACE

Hence any of the parenthesized phrases of (55) can be taken as focus, but one, "certain to win," corresponds to no element of deep structure if, as seems correct, the deep structure is something like (57) (with, perhaps, a specification of negation or question):

- (57) [<sub>s</sub> John win]<sub>s</sub> is certain

Similarly, consider the slightly more complex case (58):

- (58)  $\left\{ \begin{array}{l} \text{is John} \\ \text{John isn't} \end{array} \right\}$  believed to be certain to WIN

Evidently, "certain to win" is again a proper choice of focus, in which case what is presupposed is that something is believed of John. If we were to try to construct a cleft sentence corresponding to this interpretation of (58), it would have to be (59), analogous to (60):

- (59) it is certain to WIN that John is believed to be

- (60) it is  $\left\{ \begin{array}{l} \text{a homicidal MANIAC} \\ \text{INCOMPETENT} \end{array} \right\}$  that John is believed to be

In all such cases, the cleft sentence is very marginal, or even totally unacceptable, from a strictly grammatical point of view, though it is certainly interpretable, presumably by analogy to properly formed sentences. In these deviant sentences as well there is an alternative natural choice of focus, namely, "to win" (in (58)) and "maniac" (in (60)).

Continuing to restrict ourselves to normal intonation—that is, the intonation defined by processes such as those described in Chomsky and Halle (1968)—consider the following sentences:

- (61) did the Red Sox play the YANKEES

- (62) (i) did the Red Sox beat the YANKEES  
(ii) were the Yankees beaten by the RED SOX

Sentence (61) can be interpreted as a question about whom the Red Sox played, about what they did, or about what happened. Thus possible answers might be any of (63):

- (63) (i) No, the TIGERS  
(ii) No, they flew to WASHINGTON  
(iii) No, the game never took PLACE

Thus (61) can be interpreted as presupposing that the Red Sox played someone (but whom?), that they did something (but what?), or that something happened (but what?)—the most natural interpretation perhaps being the first. The phrases containing the intonation center in the surface structure determine focus and presupposition. In the case of (62), there is no reason to suppose that there is any relevant difference in deep structure between (i) and (ii). The expressions of (63) are possible answers to (62i) and (62ii) but are, of course, differently interpreted in cases (63i) and (63ii).<sup>26</sup> It would, for example, be impossible to answer (62ii) by saying: "No, the Red Sox beat the TIGERS." Or, to be more precise, this would be an answer only in the sense in which (40) is an answer to (38), that is, by failure to accept the presupposition.

Consider next the sentences (64):

- (64) (i) did John give the book to BILL  
(ii) did John give Bill the BOOK

The response "No, he kept it" is natural in both cases, since in each the phrase "give . . ." is a possible focus; but (65i) is a presupposition-sharing response only for (64i), and (65ii) only for (64ii):

- (65) (i) No, to someone ELSE  
(ii) No, something ELSE

Thus although there is no relevant difference in deep structure between (64i) and (64ii), they differ in the range of possible focus and presupposition in the way predicted by the position of intonation center. The same observations hold of pairs such as "John didn't argue with Bill about MONEY," "John didn't argue about money with BILL," or "I didn't buy that car in Italy five YEARS ago," "I didn't buy that car five years ago in ITALY," etc. Similarly, in the case of such a sentence as "I didn't buy that car five years ago in a country shaped like a BOOT," there are additional natural responses, conforming to the same principle. The same is true if we consider such sentences as (66):

- (66) (i) the question is not whether I should argue about money with BILL  
(ii) the question is not whether I should argue with Bill about MONEY

In the case of either, a natural response is: "it is whether I should go to England." But when the focus is taken more narrowly, the sentences are seen to differ in the range of permissible focus and presupposition.

Further support for this general point of view comes from sentences in which, for reasons having to do with particular formatives, the intonation contour shifts. Thus consider (67) and (68):

- (67) I didn't CATCH him  
(68) (i) hard work doesn't mature TEEN-agers  
(ii) hard work doesn't MATURE people

<sup>26</sup> In this case, (63ii) seems to me the least natural, presumably, because of the pairing of the concepts "win"—"lose" in the case of (62i), and because of the pairing of the action "flying to Washington" with the nonaction "being beaten by the Red Sox," in the case of (62ii). See note 25.

In the case of (67), the focus can be "catch" or "catch him," as distinct from "I didn't catch BILL," where it can be "Bill" or "catch Bill." In the case of (68i), the focus can be "teen-agers" or "mature teenagers" ("No, it matures only adults," "No, it only makes anyone tired"), whereas in the case of (68ii) it can be "mature" or "mature people" ("No, it harms them," "No, it only makes anyone tired"). In fact, even in the simplest sentences similar observations hold. Thus "Brutus killed CAESAR" can be used to state what Brutus did or who Brutus killed, whereas "Brutus **KILLED** him" can be used to state what Brutus did or what Brutus did to him. And so on, in many other cases.

So far I have restricted attention to cases of "normal intonation," this being understood tentatively as referring to cases in which the intonation contour is determined by rules of the sort discussed in Chomsky and Halle (1968), with no expressive or contrastive intonation marked in specific expressions by other grammatical processes (see note 21). Turning our attention briefly to cases of the latter sort, it appears that similar conclusions follow. Consider, for example, (69), which differs from (66) in that the intonation center is shifted to the negative element.

- (69) (i) the question is NOT whether I should argue about money with Bill  
 (ii) the question is NOT whether I should argue with Bill about money

Assuming that the intonation is otherwise normal, it still seems to be true, as in the case of (66), that (70i) is a natural response to (69i) but not (69ii), and that (70ii) is a natural response to (69ii) but not (69i):

- (70) (i) No, (it is whether I should argue about money) with MARY  
 (ii) No, (it is whether I should argue with Bill) about his trip to EUROPE

On the other hand, "No, it is whether I should go to England" is a natural response to either (i) or (ii) of (69). In all these cases, the assertion (69) is corroborated. This observation (and the analogous observation in the other instances discussed above) supports the suggestion in note 21 that in some cases, at least, expressive or contrastive stress superimposes a new contour, preserving the arrangement of focus and presupposition defined by the normal intonation. The factual judgments appear to me quite insecure, however.

Consider next such cases as (71):

- (71) did John give the **BOOK** to Bill

In this case, as distinct from the case of normal intonation (64i), the natural response is (65ii), not (65i). On the other hand, the sentence "No, he kept it," seems much less natural as a response to (71) than to either case of (64). This observation (and its analogue in other cases) suggests that when expressive or contrastive stress shifts intonation center, the same principle applies as in normal cases for determining focus and presupposition, but with the additional proviso that naturalness declines far more sharply as larger and larger phrases containing the intonation center are considered as a possible focus. This would be a very natural interpretation of contrastive or expressive intonation, and it seems consistent with a number of relatively clear cases, at least.



Hence it may perhaps be proposed as a first approximation to a general interpretive theory for this phenomenon. The same seems to me to be true when extra-emphasis is given to the item that contains the normal intonation center. Again, the factors mentioned in note 25 seem relevant.

The processes involved in determining contrastive or expressive intonation at the moment do not appear to be germane to this discussion. However, it is worth noting that they cannot be described, at least in any natural way, in terms of deep structure. This becomes most obvious when we consider positions in which there *must* be a contrastive intonation. Thus consider the sentence (72):

(72) John is neither EASY to please, nor EAGER to please, nor CERTAIN to please, nor INCLINED to please, nor HAPPY to please, . . .

In "parallel constructions," in some sense of this notion that has never been made quite clear, contrastive intonation is necessary. But it is evident, in such examples as (72) at least, that it is a parallelism of surface structure, not deep structure, that is involved. The point is even clearer when we consider such sentences as (73):

(73) John is more concerned with AFirmation than with CONfirmation

Here, the parallelism requires even a shift in contour within a single word. There are many similar cases.

To summarize these remarks, we seem to have the following situation. Rules of phonological interpretation assign an intonational contour to surface structures. Certain phrases of the surface structure may be marked, by grammatical processes of a poorly-understood sort, as receiving expressive or contrastive stress, and these markings also affect the operation of the rules of phonological interpretation. If no such processes have applied, the rules assign the normal intonation. In any event, phrases that contain the intonation center may be interpreted as focus of utterance, the condition perhaps being somewhat different and more restrictive when the intonation center involves expressive or contrastive stress, as noted. Choice of focus determines the relation of the utterance to responses, to utterances to which it is a possible response, and to other sentences in the discourse. The notions "focus," "presupposition," and "shared presupposition" (even in cases where the presupposition may not be expressible by a grammatical sentence)<sup>27</sup> must be determinable from the semantic interpretation of sentences if we are to be able to explain how discourse is constructed and, in general, how language is used.

In many cases, it seems that we can interpret a sentence in these terms, given the intonation center, in the following way. The focus is a phrase containing the intonation

<sup>27</sup> Note that we are using the term "presupposition" to cover a number of notions that should be distinguished. Thus "it was JOHN who was here" expresses the presupposition that someone was here in the sense that truth of the presupposition is a prerequisite for the utterance to have a truth value. On the other hand, when we replace one of the foci of "John gave Bill the BOOK" by a variable, it is not at all clear that the resulting expression determines a presupposition in the same sense, though it does characterize "what the utterance asserts" and to which utterances it is a proper response, when so understood.

center; the presupposition, an expression derived by replacing the focus by a variable. Each sentence, then, is associated with a class of pairs (F, P) where F is a focus and P a presupposition, each such pair corresponding to one possible interpretation. In terms of these notions we can begin to explicate such notions as natural (presupposition-sharing) response. Thus for a sentence S interpreted as (F, P) to be a natural response to a sentence S' interpreted as (F', P'), it must be the case that  $P = P'$ . Furthermore, F and F' must be paired in some "natural" way, where the relevant concept of "naturalness" no doubt extends beyond grammar, in the broadest sense of the concept "grammar." Further elaborations of these notions are surely in order,<sup>28</sup> but this seems in general a fair first approximation. In the present context, I wish only to emphasize that these notions seem to involve surface structure in an essential way, and thus to provide strong counter-evidence to the standard theory, which stipulates that semantic interpretation must be entirely determined by deep structure.

There is one obvious way to preserve the standard theory in the face of considerations of the sort just discussed, namely, to set the rule (74) as the first rule of the grammar, where F and P are arbitrary structures and S' functions as the initial symbol of the categorial component of the base:

(74)  $S \rightarrow S' F P$

Continuing to generate a full syntactic and phonological structure in accordance with the standard theory, we would then add a new "filtering rule," namely, that the structure generated is well-formed only if the focus and presupposition, as determined from surface structure, are identical with F and P, respectively. Technically, it would now be the case that deep structure fully determines meaning, even so far as focus and presupposition is concerned.<sup>29</sup> Thus underlying (75i) we would have structures with the phrase-marker for "the book," "give John the book," and "Bill gives John the book" as focus and corresponding presuppositions; and underlying (75ii) we would have structures with the phrase-marker for "John," "give the book to John"

<sup>28</sup> For example, the focus must be composed of full lexical items—more generally, items that make a contribution to the meaning of a sentence that is in some sense independent of anything outside the focus. In particular, the syllable containing the intonation center cannot serve as focus when it is part of a larger lexical item (except under the rather different circumstances of contrastive stress, as illustrated by (73)). Similarly, in a sentence such as "Did you call him UP," the item "up" cannot serve as focus, but only "call him up" or the full proposition; and in "Did you take it for GRANTED," neither "granted" nor "for granted," but only "take it for granted" (or the full proposition) can be taken as focus. This is an obvious condition to be placed on the notion of "focus," given the role it plays in explaining how sentences are used and interpreted. The same can be said of idioms in general. Hence determination of focus must involve reference to the lexicon (and, no doubt, an associated idiom list). This seems to pose no special problem. There are, incidentally, many questions that can be raised about exactly how an idiom list should be related to a grammar, but these, so far as I can see, have no bearing on the topic under discussion; nor is there, for the moment, any interesting published suggestion about this matter, to my knowledge, though an approach suggested by Fraser (1968) shows promise. I am grateful to M. Bierwisch for bringing these facts to my attention.

<sup>29</sup> It is worth noting that the proposal discussed earlier to determine the focus as the predicate of the dominant sentence of the deep structure is not very different from this proposal.

and "Bill gives the book to John" as focus with corresponding presuppositions; but not conversely, given the well-formedness condition.

- (75) (i) did Bill give John the BOOK  
(ii) did Bill give the book to JOHN

Obviously, this is merely a notational variant of a theory that determines focus and presupposition from the surface structure. In fact, the F and P positions would have to accommodate structures that can only be derived by transformation (as, e.g., in cases such as (55) and (72) and others where the focus is transformationally derived). The rules (74) and the associated filtering condition are redundant, since they are determined, by a general interpretive principle, from the structure generated in the usual way when these extra formal concepts are eliminated. If we were willing to permit such formal devices, then the claim of the standard theory that deep structure fully determines semantic interpretation would be vacuous; if we do not permit them, it seems to be false.

Observe that these considerations do not touch on one aspect of the standard theory, namely, the hypothesis that the grammatical relations that enter into semantic interpretation are those represented in deep structure. In fact, it seems to me that insofar as the standard theory is plausible in its approach to semantic interpretation, it is with respect to this specific hypothesis. Thus it is natural to suppose that the meaning of a sentence is determined by minimal meaning-bearing elements and the relations into which they enter, these relations being specified in part by the lexicon itself and in part by the rules of the categorial component. But this narrower hypothesis remains unchallenged by the consideration of focus and presupposition. On the other hand, the attempt to express the latter concepts in terms of deep structure seems to me to have led to considerable artificiality in the construction of grammars, in recent work.

Turning to related questions, it was suggested a number of years ago by Kuroda (1965) that the position of such elements as "even" and "only" is determined by transformational processes, rather than by rules of the base, and that their contribution to the meaning of the sentences in which they appear is determined by their position in surface structure. That their position is determined by transformational processes is suggested by the fact that there are "global" constraints on their occurrence; for example, "only" or "even" can appear in any of the blanks of (76), but it is questionable whether they can appear in more than one of these positions.

- (76) —John—reads—books on politics

In particular, neither "only" or "even" can occur in all of these positions. But constraints of this sort are transformational rather than "phrase-structural" in character. Furthermore, the meaning of the sentence evidently changes as "even" or "only" takes one or the other position. Kuroda suggests, then, that there is a certain category of transformations—which he calls "attachment transformations"—that do affect meaning, in the way indicated.<sup>30</sup>

<sup>30</sup> His primary examples have to do with the problem of the *wa-ga* distinction in Japanese. Examples

More recently, Jackendoff has argued in a number of important papers that many semantic phenomena can be explained most readily in terms of features of surface structure. In particular, he suggests (1968) that the scope of logical elements such as negation and quantifiers is determined by surface structure. Thus consider such sentences as (77):

- (77) (i) not many arrows hit the target
- (ii) many arrows didn't hit the target
- (iii) not many arrows didn't hit the target

It is plausible to argue that (77iii) is ungrammatical, though (as in the case of many deviant sentences) one can, if required, impose a definite interpretation on it. If so, then placement of negation meets the "global conditions" that signify that a transformational process is involved. But, evidently, (77i) and (77ii) are quite different in meaning. Hence if we suppose that the underlying structure is (78) and that (77i) and (77ii) are derived by a *not*-placement rule (and (77iii) not directly generated at all), then the deep structure will not determine the meaning.

- (78) not [many arrows hit the target]

Rather, the scope of negation will be determined by the position of "not" in surface structure. In (77i), it is the proposition that many arrows hit the target that is denied. In (77ii), many arrows are asserted to have failed to hit the target; i.e., it is the verb phrase that is "negated." (Observe that whatever the status of (77iii) may be, the examples (77i, ii) suggest that scope of negation is determined by surface structure unless we were to permit "not" to appear in deep structure in association with the phrase that constitutes its "scope"—a conclusion that violates the standard theory when applied to the examples to which we turn next.)

In support of this analysis, Jackendoff notes the relation of meaning between active and passive forms involving both quantifiers and negation. Thus he considers the following sentences:

- (79) the target was not hit by many arrows
- (80) not many demonstrators were arrested by the police
- (81) many demonstrators were not arrested by the police
- (82) John didn't buy many arrows
- (83) many arrows were not bought by John
- (84) John bought not many arrows
- (85) not many arrows were bought by John

Sentence (79) is a paraphrase of (77i), not (77ii), to which it would be related by the simplest form of the passive operation. Correspondingly, the order of quantifier and negation is the same in the surface structure of the paraphrases (77i) and (79), but different in (77ii). Furthermore, (77ii) has no passive paraphrase. What is suggested by (77)–(79), then, is that the order of quantifier and negation in the surface

---

such as (76) are somewhat questionable, as Susan Fischer has pointed out, because they also involve critically the placement of contrastive stress. See Fischer (1968), where a different analysis is proposed.

structure determines the meaning. Consequently, if the surface subject has a quantifier, then sentence negation (such as (77i)) will be different in meaning from verb phrase negation (such as (77ii)); but if the quantifier is part of a noun phrase that follows the verb, then the order of negation and quantifier is identical in sentence negation and verb phrase negation, and the meanings will be the same.

This principle is supported by (80), (81). The subject contains a quantifier, and correspondingly the case (80) of sentence negation differs in meaning from the case (81) of verb phrase negation, since the order of quantifier and negation is different. This principle is further supported by examples (82)–(85). Sentences (82) and (83) are obviously different in meaning, though (84) and (85) are the same in meaning<sup>31</sup> as are (82) and (85). In (82), (84), (85) the order of negation and quantifier is the same; in (83), the order differs. This is as required by the principle just stated.

According to this principle, sentence negation will differ in meaning from verb phrase negation in case the surface subject contains a quantifier, that is, in case the order of negation and quantifier differs in the two cases. Since it is the notion "surface subject" that is involved in determining sameness or difference of meaning, the principle is inconsistent with the standard theory. Furthermore, the principle of interpretation of surface structures seems clear, and, in addition, the transformations that form passives can be left in a simple form (though they will drastically change meaning, if they change the order of quantifier and negation). These facts, then, provide strong support for the hypothesis that surface structure determines (in part, at least) the scope of logical elements, and serve as strong counter-evidence to the standard theory in its most general form. Conceivably, one might modify the standard theory to accommodate these facts, but this modification would be justified (assuming it possible) just in case it achieved the naturalness and explanatory force of Jackendoff's proposal that negation and quantifiers are associated with phrases of the surface structure, and their interpretation is determined by the phrases in which they appear and their relative order. Jackendoff shows that a number of other cases can be explained in the same way.

Jackendoff's arguments, like those involving focus and presupposition, leave unaffected the hypothesis that the grammatical relations defined in the deep structure are those that determine semantic interpretation. If we modify the standard theory, restricting in this way the contribution of the base to semantic interpretation, we can take account of the fact that many aspects of surface structure appear to play a role in determining semantic interpretation; correspondingly, insofar as some development in syntactic theory is motivated by the demand that these aspects of semantic inter-

<sup>31</sup> Assuming, that is, that (84) is well-formed. The question is actually irrelevant, having to do with the transformational source of (85) rather than the principle in question. It is sufficient to point out that (82) (under the most natural interpretation) is a paraphrase of (85). Under a less natural, but perhaps possible interpretation, it might be taken as "there are many arrows that John didn't buy," a possibility that is irrelevant here because it remains consistent with the assumption that surface structure determines scope of negation, though it does not provide evidence for this assumption as do the other examples discussed.

pretation be expressed in deep structure, it will have lost its justification. To mention one example, consider the sentences (86):

- (86) (i) the sonata is easy to play on this violin  
(ii) this violin is easy to play the sonata on

These sentences share a single system of grammatical relations and, in some reasonable sense of paraphrase, may be regarded as paraphrases; they have the same truth conditions, for example. However, they seem different in meaning in that one makes an assertion about the sonata, and the other about the violin. Before this difference is used to motivate a difference in deep structure, however, it must be shown that this aspect of meaning is one expressed in deep rather than surface structure. In the present instance, this conclusion seems at best dubious.<sup>32</sup>

Certain properties of modal auxiliaries also suggest a role for surface structure semantic interpretive rules. Thus J. Emonds has pointed out that "shall" is interpreted differently in question and corresponding declarative.

- (87) (i) I shall go downtown  
(ii) shall I go downtown  
(iii) I  $\left\{ \begin{array}{l} \text{asked} \\ \text{wonder} \end{array} \right\}$  whether I shall go downtown

In (87i) and (87iii), the modal is essentially a tense marker. In (87ii), however, it has a very different meaning, namely, the meaning of "should." In general, interrogative expressions such as (87ii) have the same meaning as the corresponding embedded expression in sentences of the form (87iii), and, in fact, this observation, appropriately extended, has been used to support the syntactic derivation of interrogatives from embedded interrogative clauses (see, e.g., Katz and Postal, 1964). However, in the case of (87), this expectation is not verified. If we assume that the sentences of (87) are related as are those derived by replacing "shall" by "will," or by perfect aspect, etc., then the standard theory in its strongest form is refuted. If, furthermore, we wish to maintain the weaker hypothesis that the semantically functioning grammatical relations are those represented in deep structure, then we must conclude that the relation of "I" to "shall" in (87) is not a grammatical relation in this sense—it is not, for example, the subject-predicate relation. This seems a natural enough conclusion.

Other examples involving modals immediately come to mind. Thus it has frequently been noted that (88i) and (88iii) merely predict, whereas (88ii) is ambiguous, in that it may also mean that John refuses to go downtown:

- (88) (i) John will go downtown

<sup>32</sup> What is involved, apparently, is a relation of topic-comment which must be distinguished from that of subject-predicate. See Chomsky (1965), for some brief discussion within the framework of the standard theory of a question with a long history. Other arguments for distinguishing (86i) and (86ii) at the deep structure level have been proposed in recent work (e.g., Perlmutter, 1968), but they seem to me unpersuasive, though the interesting phenomena noted by Perlmutter must certainly be accounted for.

(ii) John won't go downtown

(iii) it is not the case that John will go downtown

Again, the interplay of negation and modal seems a natural candidate for a principle of surface structure interpretation.<sup>33</sup> Or consider such sentences as (89) (also pointed out by Emonds):

(89) John can't seem to get his homework done on time

There is no corresponding form without "not." Furthermore, the modal is interpreted as associated with an underlying embedded proposition "John gets his homework done on time." Hence if "can" appears in deep structure in association with "seem," as it appears in association with "work" in "John can't work," then a rule of surface structure interpretation is needed to account for its semantic relation to the embedded verbal phrase "get . . .". Suppose, on the other hand, that "can" appears at the deep structure level in association with the embedded sentence "John gets his homework done on time."<sup>34</sup> Then a rule is necessary that extracts "can" from the embedded sentence and assigns it to the matrix sentence—in fact, to exactly the position it occupies in simple sentences. However, note that this extraction is possible only when "can" is interpreted as indicating ability, not possibility. Thus (89) has approximately the sense of (90), but the sentence (91), if grammatical at all, surely does not have the sense of (92):

(90) it seems { that John can't get his homework done on time  
that John is unable to get his homework done on time

(91) the war can't seem to be ended by these means

(92) it seems { that the war can't be ended by these means  
that it is impossible for the war to be ended by these means

Hence either the extraction operation will have to be sensitive to the difference in sense of two cases of "can"—an otherwise unmotivated complication—or else the interpretation will have to be "delayed" until after extraction has taken place. The latter choice requires a rule of interpretation that does not apply to deep structure.

Notice that in general rules of semantic interpretation have a "filtering function" analogous to that of rules of transformation in the standard theory. This is true no matter at what level they apply. Thus a rule of interpretation applying at the deep structure level may assign an anomalous interpretation to an otherwise well-formed sentence. A rule of interpretation that applies to other structures of the class K of syntactic structures, say to surface structures, may have the same effect, in principle. Thus a decision that "can" in (89) appears at the deep structure level in association with

<sup>33</sup> Examples such as (88ii) have been used to justify the argument that there are two sources for "will" (and other modals as well). The arguments in general seem to me unconvincing, since an alternative formulation involving rules of interpretation is immediately available. Furthermore, it seems that the phenomena observed are of some generality. Thus the difference in meaning between (88ii) and (88i, iii) is characteristic of the future "tense" in many languages, and thus has nothing to do, apparently, with the volitional force of the element "will."

<sup>34</sup> A conclusion which appears implausible in that in general *to*-VP constructions, as in (89), exclude modals.

"seem" would not be refuted by the observation that (91) is deviant; rather, the deviance, in this view, would be attributed to the filtering function of a principle of semantic interpretation applying at the surface structure level.

Anaphoric processes constitute another domain where it is reasonable to inquire into the possibility that rules of semantic interpretation operate at the level of surface structure. It has been noted by Akmajian and Jackendoff (1968) that stress plays a role in determining how the reference of pronouns is to be interpreted. For example, in the sentence (93), "him" refers to Bill if it is unstressed, but it may refer either to John or to someone other than John or Bill if it is stressed:

(93) John hit Bill and then George hit him

Similarly, in (94), where "else" is stressed, "someone else" refers to someone other than John, whereas when "afraid" is stressed, it refers to John himself:

(94) John washed the car; I was afraid someone else would do it

The same phenomenon can be observed within sentence boundaries. The explanation hinges on the analysis of placement of primary stress, but it is reasonable to suppose, as Akmajian and Jackendoff suggest, that a principle of surface structure interpretation is involved, given what is known about the relation of intonation to surface structure. See also Jackendoff (1967).

Recent observations by Ray Dougherty (1968a, b) lend some support to this proposal. He argues that the interpretive rules of reference must apply after the application of various transformations, making use of information that is not present at the deep structure level. Thus consider the sentences (95):

- (95) (i) each of the men hates his brothers
- (ii) the men each hate his brothers

Dougherty gives considerable evidence to support the view that (95ii) is derived from a structure such as (95i), by a rule that moves "each" to one of several possible positions in a sentence. But clearly (i) and (ii) differ in the range of possible interpretations for the reference of the pronoun "he." Thus in (ii), but not (i), it is necessary to interpret "he" as referring to someone other than the men in question. The deviance of (96ii), then, might be attributed to the filtering effect of rules of surface structure interpretation:

- (96) (i) each of the men hates his own brothers
- (ii) the men each hate his own brothers

Or, consider the sentences (97):

- (97) (i) each of Mary's sons hates his brothers
- (ii) his brothers are hated by each of Mary's sons
- (iii) his brothers hate each of Mary's sons
- (iv) each of Mary's sons is hated by his brothers

The simplest formulation of the passive transformation would derive (ii) from a structure like (i), and (iv) from a structure like (iii). But in (ii) and (iii), "he" cannot be interpreted as referring to any of Mary's sons, though in (i) and (iv) it can be so interpreted. As Dougherty points out in detail, there are many similar phenomena. The



matter is not restricted to pronominalization; thus consider the effect of replacing "his" by "the other" in (97). There appears to be, in such cases, a relatively simple rule of interpretation which makes use of surface structure information, and which, with its filtering effect, rules that certain otherwise well-formed sentences are deviant. Such observations as these, then, also lend support to a revision of the standard theory that incorporates such rules.

Turning to still more obscure cases in which semantic interpretation may involve surface properties, consider the curious behavior of perfect aspect in English with respect to the presuppositions it expresses. Quite generally, a sentence such as (98) is taken as presupposing that John is alive:

(98) John has lived in Princeton.

Thus knowing that (99) is true, one would not say "Einstein has lived in Princeton"; rather "Einstein lived in Princeton":

(99) Einstein has died<sup>35</sup>

But now consider the following sentences:

(100) Einstein has visited Princeton

(101) Princeton has been visited by Einstein

(102) Einstein (among others) has told me that . . .

(103) I have been told by Einstein (among others) that . . .

(104) Einstein has taught me physics

(105) I have been taught physics by Einstein

It seems to me that (100), (102), (104) presuppose the denial of (99), but that (101), (103), and (105) do not. If this is correct, then the semantic interpretation of perfect aspect would appear to depend on certain properties of surface structure.<sup>36</sup>

The problem is still more complex when we consider coordinate and other construc-

<sup>35</sup> As can be seen from (99), it is not invariably true that use of the present perfect aspect as the full auxiliary presupposes that the subject is alive, although (99) would nevertheless only be appropriate under rather special circumstances, e.g., if Einstein's death had just occurred. Where a verb can be used in the historical present, use of the present perfect does not seem to carry the presupposition that the subject is alive. Thus I could not say "Aristotle has visited Crete" or "Aristotle visits Crete" (in historical present), but there is no presupposition that Aristotle is alive in "Aristotle has claimed, investigated, demonstrated, . . ." (or in "Aristotle demonstrates in the *Posterior Analytics* that . . .," etc.).

The example (98) is discussed in Chomsky (1968), p. 50, but with no reference to the full range of complexities involved.

<sup>36</sup> Unless it is maintained that the surface subject of the passive is also the deep subject. Although arguments for this view can be advanced (see, e.g., Hasegawa, 1968), it seems to me incorrect, a strong counter-argument being provided by idioms that undergo passivization, moving to the surface subject position noun phrases which cannot otherwise appear as subject—e.g., "advantage was taken of Bill," "offense was taken at that remark," "a great deal of headway was made," etc.

Notice, incidentally, that assumptions about whether the entity referred to by a noun phrase is alive can be related in rather complex ways to the structure of an utterance and the lexical items it contains. Thus if I say that John is a friend of mine or that I get along with John, the presupposition is that he is alive; but if I say that John is a hero of mine or that I admire him, this is no longer presupposed; as, of course, it is not presupposed, in any of these cases, if present tense is replaced by past tense.

tions. Thus consider the following cases:

- (106) Hilary has climbed Everest
- (107) Marco Polo has climbed Everest
- (108) Marco Polo and Hilary have climbed Everest
- (109) Marco Polo and many others have climbed Everest
- (110) Everest has been climbed by Marco Polo (among others)
- (111) many people have climbed Everest

Sentences (106) and (107) express the presupposition that Hilary and Marco Polo, respectively, are alive.<sup>37</sup> On the other hand, sentences (108)–(110) do not express the presupposition that Marco Polo is alive; and (111) expresses no such presupposition with regard to the various climbers of Everest. Intuitions about this matter do not appear too firm, but if the judgments just expressed are accurate, then it seems that surface structure must play a role in determining the presupposition of the utterance in a rather complex manner.

Significant differences in interpretation of sentences as the auxiliary is changed are very easy to demonstrate. Thus sentence (112) presupposes that John is a Watusi, but if we replace “is” by “would be,” the presupposition is that he is not:

- (112) John is tall for a Watusi

Furthermore, (112) presupposes that the Watusi are generally not tall, but if “even” is inserted after “tall,” the presupposition is that the Watusi are tall, and it is asserted that John, who is a Watusi, is even taller than expected. If “even” precedes “John” in (112), the assertion is that John, who is a Watusi, is short, as are the Watusi in general. Thus the change in position of “even” changes the content with regard to the height of John and the standard height of the Watusi.

This by no means exhausts the class of cases where it appears reasonable to postulate rules of interpretation that make use of information not represented in deep structure. These cases suggest that the standard theory is incorrect, and that it should be modified to permit these rules. These considerations may not affect the weaker hypothesis that the grammatical relations represented in deep structure are those that determine semantic interpretation. However, it seems that such matters as focus and presupposition, topic and comment, reference, scope of logical elements, and perhaps other phenomena, are determined in part at least by properties of structures of K other than deep structures, in particular, by properties of surface structure. In short, these phenomena suggest that the theory of grammar should be reconstructed along the lines intuitively indicated in (113), using the notation of the earlier discussion:

- (113) base:  $(P_1, \dots, P_i)$  ( $P_1$  the K-initial,  $P_i$  the post-lexical (deep) structure of the syntactic structure which is a member of K)

<sup>37</sup> It is even clearer, perhaps, in “Marco Polo has succeeded in climbing Everest.” However, for some obscure reason, it seems to me that if Hilary had just announced that he had succeeded in climbing Everest, it would have been appropriate, without the presupposition that Marco Polo is alive, to have said: “But Marco Polo has done it too.”

transformations:  $(P_i, \dots, P_n)$  ( $P_n$  the surface structure;  $(P_i, \dots, P_n) \in K$ )

phonology:  $P_n \rightarrow$  phonetic representation

semantics:  $(P_i, P_n) \rightarrow$  semantic representation (the grammatical relations involved being those of  $P_i$ , that is, those represented in  $P_i$ ).

Notice, incidentally, that it is, strictly speaking, not  $P_n$  that is subject to semantic interpretation but rather the structure determined by phonological interpretation of  $P_n$ , with intonation center assigned. We have already noted, in discussing the matter of "opaque" contexts, that it is impossible to construct a "semantically-based" syntax along the lines that have been proposed in recent discussion. See p. 67-69. The phenomena that we have now been considering lend further support to this conclusion (unnecessary support, in that the earlier observations suffice to establish the conclusion). It must be borne in mind, however, that the proposed revision of the standard theory does not imply that grammar is "syntactically-based" in the sense that in generating a sentence one must "first" form  $P_1$  by the categorial component, "then" forming  $P_i$  by lexical insertion, "then" forming the remainder of the syntactic structure  $\sum \in K$  by transformation, "then" interpreting  $\sum$  by semantic and phonological rules. In fact, this description, whatever its intuitive suggestiveness, has no strict meaning, since the revised theory assigns no "order" to operations, just as the standard theory assigns no order of application, as already noted. In fact, there is nothing to prevent one from describing the standard theory or the proposed revision as characterizing grammars that map phonetic representation onto triples (deep structure, surface structure, phonetic representation), or as mapping pairs (phonetic representation, deep structure) onto pairs (surface structure, semantic representation), etc. In fact, the revision, like the standard theory, characterizes grammars that define a certain relation among these concepts, where the relation has properties determined by the precise nature of base rules, transformations, rules of phonological interpretation, and rules of semantic interpretation.

It may be useful, at this point, to recall the attempts of the past few years to study the relation of syntax and semantics within the framework of transformational-generative grammar. Within this framework, the first attempt to show how the syntactic structure of a sentence contributes to determining its meaning was that of Katz and Fodor (1963), an approach that was modified and extended in Katz and Postal (1964). The basic assumption was that meaning is determined by properties of phrase-markers and transformation-markers (P-markers and T-markers). In Katz and Fodor (1963), two types of rule of interpretation ("projection rule") were considered. Type 1 projection rules operate on configurations of P-markers; type 2 projection rules are associated with transformations and their configurations. In Katz and Postal (1964), it was argued that T-markers play no role in the determination of meaning. First, it was argued that obligatory transformations can in principle have no semantic effects, since "the output of sentences which result from such rules is fully determined by the input P-markers" (p. 31). Then, a variety of syntactic arguments were given to show that

optional transformations also do not change meaning. It was further argued that only the configurations of underlying (base) P-markers are semantically relevant. We are left, then, with the conclusion that the only rules relevant to determination of meaning are the rules of the categorial component. This line of argument was accepted in most work done at about that time within the framework of transformational-generative grammar—including, in particular, Chomsky (1965).

Since surface structure is fully determined by base rules and transformational rules, it seems natural to suppose that properties of surface structure, not being a matter of "choice," could not contribute to semantic interpretation. Underlying this assumption one might perhaps discern the remnants of the "Saussurian" view that a sentence is constructed by a series of successive choices, and that each of these may be related to semantic considerations of some sort. Of course, such talk is only metaphorical when we are concerned with competence rather than performance. It may, however, have occasionally been misleading, suggesting, erroneously, that since surface structure is fully determined by other "choices," properties of surface structure cannot contribute to semantic interpretation. When we drop the loose and metaphoric use of such notions as "choice," we see that there is no reason at all why properties of surface structure should not play a role in determining semantic interpretation, and the considerations brought forward earlier suggest that in fact they do play such a role.

To conclude this discussion, I would like to take note of one additional line of investigation that appears to complement the study of semantic properties of surface structure. In outlining the standard theory (p. 54 above) I pointed out that it contained a well-formedness condition on surface structures, and thus implied that transformations have what has been called a "filtering function" (cf. Chomsky, 1965). In Ross (1967) there is further investigation of "output conditions" that serve as well-formedness conditions for surface structures. The conditions that Ross investigates are of a "graded" rather than an "all or none" character, recalling some interesting observations of Bolinger (1961). In Perlmutter (1968) it is demonstrated that there are also "output conditions" of a sort more typical of grammatical processes of the familiar kind, and it is shown that these conditions serve to enrich considerably the filtering effect of transformations. Joseph Emonds, in very interesting work now in process, has amassed considerable evidence suggesting that the set of conditions on structures close to surface structure have properties expressible by a set of context-free phrase structure rules. Thus to mention just one typical example, he considers the observation in Chomsky (in press) that the passive transformation in English consists of two separate rules: a rule of subject-postposing that converts the structure underlying "John accept the proposal" into "accept the proposal by John"; and a subsequent rule of object-preposing that converts the latter into "the proposal accept by John." Where the proposition in question is a nominal expression, subject-postposing may apply alone, giving ultimately "the acceptance of the proposal by John"; or both operations may apply, giving "the proposal's acceptance by John." But where the proposition in

question is a full sentence, it is necessary for both operations to apply, so that we have the sentence "the proposal was accepted by John" but not "was accepted the proposal by John" or "accept the proposal by John." He points out that this discrepancy can be accounted for by a condition which we can formulate (departing now from Emonds' interpretation) as requiring that the set of surface structures (or, to be more precise those structures that precede the application of "last-cycle rules" such as auxiliary inversion, etc.) satisfy the rules of a phrase structure grammar that permits noun phrases of the form N-PP-PP (e.g., "the offer of a book to John") but no sentences of the form V-NP-PP (an obligatory rule of "of"-insertion applies in the context N—NP). Some of Perlmutter's data also seems susceptible to such an analysis. From many examples of this sort, it is reasonable to propose a further modification of the standard theory, perhaps along these lines: a set of context-free rules generates structures that become surface structures by application of last-cycle transformational rules, and a related set (perhaps a subset of these) serves as the categorial component of the base; transformations map base structures into well-formed structures close to surface structures meeting the requirements of a phrase structure grammar. Such an extension of the standard theory, if warranted, would be an interesting and suggestive supplement to the proposal that properties of surface structure play a distinctive role in semantic interpretation. It seems to me that these ideas suggest a line of investigation which, though still unclear in many respects, may prove quite promising.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, U.S.A.

#### REFERENCES

- Akmajian, A., "On the analysis of cleft sentences," mimeographed, M.I.T. (1968).  
 ——— and R. Jackendoff, "Squib," mimeographed, M.I.T. (1968).  
 Austin, J.L., "A plea for excuses," *Proceedings of the Aristotelian Society*, 1956–7, Reprinted in J.D. Urmson and G.J. Warnock, eds., *John L. Austin's Philosophical Papers*, Oxford, 1961.  
 Bolinger, D.L., "Generality, Gradience, and the All-or-none," *Janua Linguarum series minor*, No. 14, 1961, Mouton and Co., The Hague.  
 Bresnan, J., "A note on instrumental adverbs and the concept of deep structure," M.I.T. (1968).  
 Chafe, W.L., "Language as symbolization," *Language* 43, pp. 57–91 (1967).  
 Chomsky, N., *Aspects of the Theory of Syntax*, M.I.T. Press (1965).  
 ——— "Remarks on Nominalization," in R. Jacobs and P. Rosenbaum, eds., *Readings in English Transformational Grammar*, Blaisdell, (in press).  
 ——— and M. Halle, *Sound Pattern of English*, Harper and Row (1968).

- Dougherty, R., *A Transformational Grammar of Coordinate Conjoined Structures*, Ph.D. dissertation, M.I.T. (1968a).
- "A comparison of two theories of pronominalization," mimeographed, M.I.T. (1968b).
- Fillmore, C.J., "The case for case," in E. Bach and R. Harms, eds., *Universals in Linguistic Theory*, Holt, Rhinehart and Winston, 1968, pp. 1–88.
- Fischer, S.D., "On cleft sentences and contrastive stress," mimeographed, M.I.T. (1968).
- Fraser, B., "Idioms within a transformational grammar," manuscript (1968).
- Grice, H.P., "Meaning," *Philosophical Review*, Vol. 66, pp. 377–88 (1957).
- "Utterer's meaning, sentence-meaning and word-meaning," *Foundations of Language* 4, pp. 225–42 (1968).
- Hall, B., See Partee.
- Hasegawa, K., "The passive construction in English," *Language* 44, pp. 230–43 (1968).
- Jackendoff, R., "An interpretive theory of pronouns and reflexives," mimeographed, M.I.T. (1967).
- "An interpretive theory of negation," mimeographed, M.I.T. (1968), to appear in *Foundations of Language*.
- Katz, J.J., *The Philosophy of Language*, Harper and Row (1966).
- and J.A. Fodor, "The structure of a semantic theory," *Language* 39, pp. 170–210 (1963).
- and P. Postal, *An Integrated Theory of Linguistic Description*, M.I.T. Press (1964).
- Kraak, A., "Presupposition and the analysis of adverbs," mimeographed, M.I.T. (1967).
- Kuroda, S.-Y., *Generative Grammatical Studies in the Japanese Language*, Ph.D. dissertation, M.I.T. (1965).
- Lakoff, G., *On the nature of syntactic irregularity*, Ph.D. dissertation, Harvard University (1965).
- "Pronominalization and the analysis of adverbs," mimeographed, Harvard (1967).
- "Instrumental adverbs and the concept of deep structure," *Foundations of Language* 4, pp. 4–29 (1968).
- Mates, B., "Synonymity," *University of California Publications in Philosophy*, pp. 201–26 (1950).
- McCawley, J.D., "Lexical insertion in a transformational grammar without deep structure," Fourth Regional Meeting, Chicago Linguistic Society, April, 1968, Dept. of Linguistics, University of Chicago (1968a).
- "The role of semantics in grammar," in E. Bach and R.T. Harms (eds.) *Universals in Linguistic Theory*, Holt, Rhinehart and Winston, pp. 124–69, (1968b).
- "Where do noun phrases come from?," in R. Jacobs and P. Rosenbaum

- (eds.) *Readings in English Transformational Grammar*, Blaisdell, (in press).
- Partee, Barbara Hall, *Subject and Object in Modern English*, Ph.D. dissertation, M.I.T. (1965).
- "Negation, conjunction, and quantifiers: syntax vs. semantics," mimeographed, UCLA, (1968), presented at the Conference on Mathematical Linguistics, Budapest, September, 1968.
- Perlmutter, D.M., *Deep and Surface Structure Constraints in Syntax*, Ph.D. dissertation, M.I.T. (1968).
- Quine, W.V., *Word and Object*, Wiley and Sons (1960).
- Ross, J.R., *Constraints on Variables in Syntax*, Ph.D. dissertation, M.I.T. (1967).
- Scheffler, I., "On synonymy and indirect discourse," *Philosophy of Science*, 39-44 (1955).
- Searle, J., *Speech Acts: An Essay in the Philosophy of Language*, Cambridge University Press (1968).
- Stampe, D.W., "Toward a grammar of meaning," *Philosophical Review*, Vol. 78, pp. 137-74 (1968).

# ÜBER SPRACHWISSENSCHAFTLICHE FELDARBEIT

BJÖRN COLLINDER

Seit einem Mannesalter gibt es neben der lebendigen Rede und dem Schrifttum eine dritte Erscheinungsform der Sprache: das Phonogramm. Nunmehr sind wir imstande, den einmaligen Fluss der Rede nach Belieben zu verewigen. Für die systematische Sprachbeschreibung liegt schon ein unabsehbar reicher Stoff vor, der durch Data-Maschinen verarbeitet werden kann. Durch die phonographische Aufnahmemethode kann man eine lästige Fehlerquelle ausschalten: der Gewährsmann braucht nicht zu wissen, dass seine Rede registriert wird—er spricht mithin spontan und hemmungslos, wie ihm der Schnabel gewachsen ist. Die Aufnahme kann nach Bedarf unzählige Male abgelauscht werden. Die jeweilige auditive Reproduktion kann ebenso gut wie die ursprüngliche einmalige Rede instrumental analysiert werden.

Unter solchen Umständen scheint es als ob das hergebrachte mühsame Aufzeichnen fremder Idiome nunmehr keinen Sinn hätte. Diese Folgerung wäre aber übereilt.

Der Aufenthalt im sprachlichen Milieu kann nicht durch Tonbandaufnahmen ersetzt werden. Auch wenn der Ablausher ein sehr feines Gehör hat, muss er sich an das Idiom gewöhnen, und dies geschieht am besten in der lebendigen sprachlichen Umwelt. Wenn am Tonband etwas Problematisches auftaucht, hat der Archivforscher meistens keine Gelegenheit, wegen der Aufklärung dieses Details eine Forschungsreise zu machen.

Die Texte von unseren lappischen Gesangsaufnahmen, von denen bisher zwei Hefte veröffentlicht worden sind, wurden von Dr. Harald Grundström nachträglich ausgeschrieben und übersetzt.<sup>1</sup> An seiner Seite hatte er einen lappischen Kenner des einschlägigen Stoffes. Es hat sich aber herausgestellt, dass es auch in der Philologie der mündlichen Überlieferung hermeneutische und textkritische Probleme gibt. Es gab Schwierigkeiten, welche die Befragung des Sängers nötig machten, und es ist sogar vorgekommen, dass der Sänger sich dann bei einem Stammesgenossen über die Bedeutung eines Wortes erkundigen musste.

I.J. 1941 machte ich Textaufzeichnungen im südlichsten lappischen Dialektgebiete

---

<sup>1</sup> Lappische Lieder, Texte, und Melodien aus Schwedisch-Lappland, Phonographisch aufgenommen vom Institut für Mundarten und Volkskunde in Uppsala. I. Jonas Eriksson Steggos Lieder, Text herausgegeben von Harald Grundström, Musikalische Transkription von A.O. Väisänen. II. Lieder aus Arjeplog und Arvidsjaur, Text herausgegeben von Harald Grundström +, Musikalische Transkription von Sune Smedsby. Uppsala, 1958, 1963.



Schwedens. Im folgenden Jahr machte ich in der selben Gegend phonographische Aufnahmen. Dabei nahm ich eine kurze Anekdote auf, die ich ein Jahr früher nach dem selben Gewährsmann aufgezeichnet hatte. Die beiden gesprochenen Texte waren nicht in jeder Einzelheit identisch. Als ich mir nach der Rückkehr von der Reise die Anekdote vorspielte, fand ich zu meiner Enttäuschung, dass es mir unmöglich war, ein gewisses Wort, das in der Aufzeichnung fehlte, aufzufassen.

Ich habe statistisch feststellen können, dass die Aufzeichnungen, die ich während der ersten Tage meines Aufenthaltes in einer lappischen Gegend gemacht habe, schlechter sind als die späteren. Dies kann nicht wunder nehmen; aber wir müssen uns auch vergegenwärtigen, dass ein Archivforscher, dem nur Bandaufnahmen zur Verfügung stehen, sich mit Schwierigkeit—wenn überhaupt—in den phonologischen Feinheiten eines fremden Idioms orientieren kann.<sup>2</sup>

Es ist zu bedauern, dass das Tonfilmverfahren so kostspielig ist.

Es ist schwer zu verstehen, wie ein Stipendiat, der seine Sommerferien in einem Indianerreservat verbringt, es fertigbringen kann, ohne phonetische Analyse den Phonembestand der fremden Sprache genau festzustellen. Kein phonetischer Unterschied ist zu geringfügig, um semantisch relevant sein zu können. Ich nehme aufs Geratewohl ein Beispiel aus dem Lappischen. In einer Mundart heisst '(See)boden' im Nominativ *po'nē*, im Genitiv *po'nē*; d.h., der Unterschied zwischen zwei Intensitäts- und Quantitätsstufen des Kehlkopfverschlusses ist grammatisch bedeutsam. Nicht alle Beobachter können diesen Unterschied auffassen; es dreht sich aber um zwei distinkte Einheiten im phonologischen System. Im Dänischen hat der Kehlkopfverschluss phonematischen Wert. Man erzählt aber von dem berühmten dänischen Altphilologen und Sprachtheoretiker J.N. Madvig, dass er den Kehlkopfverschluss nicht nur nicht hören konnte, sondern dessen Existenz sogar in Abrede stellte. Er stammte aus einer Gegend, wo der Kehlkopfverschluss nicht vorkommt. Ein zweites Beispiel: in etlichen lappischen Mundarten ist der Unterschied zwischen kurzem *a* und halbkurzem *a* lexikalisch relevant. Phonetisch kann man in diesen Mundarten zwischen sechs Quantitätsstufen von *a* unterscheiden, nämlich überkurz, kurz, halbkurz, halblang, lang und überlang; aber dazu hat man ein gutes und geübtes Gehör nötig, wenn man ein Fremder ist, und man muss wohl sein Gehör an der lebendigen Rede üben.

Ich komme auf den Kehlkopfverschluss zurück. M.A. Castrén, der vor dem Entstehen der modernen europäischen Phonetik als Aufzeichner tätig war und die phonetischen Errungenschaften der alten Inder wohl nicht kannte, hat in seinen Aufzeichnungen eine einfache Transkription verwendet. Er unterscheidet aber in seinen juraksamojedischen

<sup>2</sup> "Experience has shown that only people with such a thorough practical knowledge of the dialect that they can understand to the smallest detail what the speaker is saying or intends to say, are capable of identifying in a linguistically reliable way what is being said over the loudspeaker. In these cases it is no good only having a theoretical knowledge of the dialect. One should be so used to hearing and understanding it that one has as great a command of it as the speaker himself." (Folke Hedblom, "The Tape Recording of Dialects for Linguistic Sound Archives," in: *Archives des Traditions Populaires Suédoises*, 1961, S. 96.)

Aufzeichnungen zwischen zwei Spielarten des Kehlkopfverschlusses, und es kann festgestellt werden, dass der Unterschied grammatisch relevant ist. Die eine Spielart geht historisch auf einen Nasal zurück, die andere auf einen stimmlosen oralen Verschlusslaut oder *s*. Bei Toivo Lehtisalo, der ein grosses jurakisches Wörterbuch mit überaus genauer phonetischer Transkription veröffentlicht hat, findet man keine Spur vom Unterschied der beiden Kehlkopfverschlusslaute. Man möchte denken, der Unterschied wäre während der zweiten Hälfte des 19. Jahrhunderts in Wegfall gekommen. Dies stimmt aber nicht. In den Veröffentlichungen von Frau Professor N.M. Tereščenko finden wir den selben Tatbestand wie bei Castrén. So bedeutet *to* (ohne Kehlkopfverschluss) '(Binnen) see'; der Genitiv Singular heisst *to'* (mit nasaliertem Kehlkopfverschluss), und der Nominativ Plural heisst *to'* (mit nicht-nasaliertem Kehlkopfverschluss). Nach dem Tode ihres Gatten, des jurakischen Forschers A.P. Pyrerka, ist Frau Tereščenko der beste Kenner des Jurakischen. Die Existenz der beiden Kehlkopfverschlusslaute ist durch Professor Paul Ariste bestätigt worden, der in Tartu mit jurakischen Gewährsleuten gearbeitet hat. Dass der Unterschied zwischen den beiden Kehlkopfverschlusslauten wenigstens in der Aussprache der Frau Tereščenko sehr deutlich hörbar ist, kann ich selbst bezeugen. Es gibt aber Forscher, die den Unterschied nicht hören können und die auf jeden Fall den phonematischen Charakter des Unterschiedes in Abrede stellen.

Im Uppsalaer Mundartenarchiv hat man die traurige Erfahrung gemacht, dass man bisweilen aus einer Dialektaufzeichnung herauslesen kann, aus welcher Gegend der Aufzeichner gebürtig ist. Im Institut für skandinavische Philologie hat man Eichungsversuche gemacht, indem die Teilnehmer des Seminars nach dem Diktat eines Gewährsmannes unabhängig von einander Dialektwörter aufzeichneten. Das Ergebnis war nicht ermutigend.

Unter günstigen Umständen können sich zwei Aufzeichner im Felde gegenseitig kontrollieren. Ich habe selbst solche Versuche mit sehr gutem Erfolg gemacht zusammen mit Frans Äimä, Israel Ruong und K.G. Hasselbrinck. Im ersten Fall drehte es sich um die Quantität der stimmlosen Verschlusslaute im Litauischen im Zusammenhang mit einer instrumentalen Daueruntersuchung, in den zwei anderen Fällen um lappische Mundarten.

Ich wiederhole was ich vor 25 Jahren geäussert habe: "Für den Dialektaufzeichner ist die Unwissenheit ein Kapital, das er nicht leichtsinnig verschwenden sollte. Die regelmässigen Lautverhältnisse des betreffenden Dialektes müssen sich nachträglich aus den Aufzeichnungen ergeben; nur wenn der Aufzeichner sein Ding auf nichts gestellt und von allen systematischen Fragestellungen unbeirrt gearbeitet hat, darf er sich auf die immanente Systematik des eingesammelten Stoffes verlassen. Man sollte es wohl auch möglichst vermeiden, dass der Gewährsmann seine Aufmerksamkeit auf die Aussprache der Wörter richtet. Es ist heutzutage allgemein anerkannt, dass man beim Ausfragen soweit möglich die sachlichen Zusammenhänge als Leitfaden benutzen soll, wenn man nicht den Gewährsmann unnötigerweise ermüden will. Dies ist auch

vom Gesichtspunkt der Laut- und Formenlehre insofern vorteilhaft, als der Aufzeichner nicht die Gefahr läuft, dem Gewährsmann oder sich selbst unbefindliche 'Regelmässigkeiten' zu suggerieren. Erst gegen das Ende des Aufenthaltes im betreffenden Dialektgebiet, wenn man schon eine Wortsammlung fertiggestellt hat, dürfte es angebracht sein, die lautlichen Feinheiten mit Hilfe einer Frageliste abzulauschen."

Ein nunmehr hingschiedener Fennologe, der sich nicht früher mit der lappischen Sprache befasst hatte, machte vor einigen Jahren Aufzeichnungen nach einem in Sodankylä ansässigen Lappen. Er glaubte dabei feststellen zu können, dass es im Lappischen einen paradigmatischen Wechsel der Wortmelodie gibt. Da diese Erscheinung den Erforschern der lappischen Sprache unbekannt war, nahm ich an, dass es sich um eine zufällige, durch die Ausfragungstechnik hervorgerufene Kontrastbetonung handelte. I.J. 1960 machte ich in Sodankylä die Bekanntschaft des betreffenden Gewährsmannes, und ich nahm nach ihm einen Text auf, der jetzt im Uppsalaer Mundartenarchiv aufbewahrt ist. Er sprach eine mir geläufige lappische Mundart. Von dem vermeintlichen Melodiewechsel fand ich keine Spur.

Es gibt keinen kurzen Richtweg zur genauen Kenntnis eines fremden Idioms. Die Gewöhnung an den Lautstand soll nicht lediglich passiv sein. Man soll auch versuchen, die Laute nachzuahmen. Man soll anfangs alles aufzeichnen, was man hört— auch wenn man etwa hört, wie das Gras wächst. Man muss phonetisch aufzeichnen, bevor man phonematisch aufzeichnen kann. Man muss auch über ein Transkriptionssystem verfügen, das grundsätzlich unbegrenzt elastisch ist. Ich kenne nur ein solches: das FUF-System, das E.N. Setälä im ersten Jahrgang der Zeitschrift *Finnisch-ugrische Forschungen* (1901) beschrieben hat. In diesem System ist die Elastizität durch bewegliche diakritische Zeichen erzielt. Solange sich der Aufzeichner sozusagen im Vorhof bewegt, hat er viele Diakritika nötig. Allmählich wächst er in die phonologische Struktur des Idioms hinein. Indem sich der Blick für die Regelmässigkeiten des Musters erweitert und verschärft, baut sich die Lautlehre des Idioms halbwegs intuitiv auf. Mit jeder Einzelheit der Lautlehre, die sich dem Beobachter erschliesst, fällt ein Diakritikon weg, und man nähert sich mehr und mehr einer phonematischen Transkription.<sup>3</sup>

Als ich vor vierzig Jahren das Quantitätssystem des Inarilappischen deskriptiv und historisch erläuterte, benutzte ich als Material die von Äimä gemachten genauen phonetischen Feldaufzeichnungen, die ich in Äimäs phonetischen und etymologischen Veröffentlichungen vorfand. Ich hatte es nicht nötig, diese Aufzeichnungen phonematisch zu transkribieren.

In meiner Lautlehre des waldlappischen Dialektes von Gällivare sowie in meiner Formenlehre des Jukkasjärvilappischen (*The Lappish Dialect of Jukkasjärvi*) habe ich meine Feldaufzeichnungen durchweg unverändert wiedergegeben. Es gibt Rezensionen-

<sup>3</sup> Vgl. Björn Collinder, "Ein vereinfachtes Transkriptionssystem." (*Uppsala universitets årsskrift*, 1957:12= *Språkvetenskapliga sällskapets i Uppsala förhandlingar*, 1955-1957, S. 69-104.)

ten, die mit dieser Verfahrungsweise nicht einverstanden sind. Darüber lässt sich streiten. Auf keinen Fall betrachte ich es aber als rätlich, schon während der Feldarbeit auf Grundlage einer vorgefassten Theorie über den Phonembestand eines fremden Idioms die Aufzeichnungen zu normalisieren. Die phonetischen Aufzeichnungen haben einen dokumentarischen Wert.

Zu Grundströms Lulelappischen Wörterbuch habe ich ungefähr 10.000 Wörter beige-steuert. Alle sind nach den Aufzeichnungen genau abgedruckt. Einige Aufzeichnungen, die wahrscheinlich in irgendeinem Detail ungenau sind, wurden mit einem Sternchen versehen. Es gibt in diesem Material zwei zahlreich vertretene Gruppen von dreisilbigen abgeleiteten Verbstämmen, die beim Aufzeichnen Schwierigkeiten bereiten. Im Lulelappischen bedeutet *manāta*- 'irgendwohin einen Abstecher machen, rasch gerade einmal wohin fahren,' *manā<sup>h</sup>ta*- dagegen 'begleiten, bewachen, hüten.' Im Jukkasjärvilappischen sind diese Zeitwörter leicht zu unterscheiden; sie lauten dort *manaḍa*-, bzw. *manaha*-. Im nördlichen Gällivare war der überkurze Vokalablauf vor dem *t* oft sehr schwer zu hören. Nun haben Wiklund und Grundström aus Jockmock und dem südlichen Gällivare einen Verbstamm *kačāta*-, (einmal) fragen, aufgezeichnet, während ich ein *kačā<sup>h</sup>ta*-, ausfragen, aus dem nördlichen Gällivare aufgezeichnet habe. Es dreht sich um zwei verschiedene Wörter. Als ich *kačā<sup>h</sup>ta*- aufzeichnete, wusste ich nicht, dass der kaum hörbare stimmlose Vokalausgang durch das mordwinische *kizifta*- bestätigt wird. Vom Finnmarklappischen ausgehend hat Professor A. Nesheim meine einschlägigen Aufzeichnungen kontrolliert. Dabei hat es sich herausgestellt, dass ich nach dem Zeugnis des Finnmarklappischen in zwei Fällen die überkurze Stimmlosigkeit des Vokalausganges überhört habe; wo ich Stimmlosigkeit notiert habe, konnte Nesheim durchgehends meine Beobachtungen bestätigen. Hier wäre das Normalisieren als ein unwissenschaftliches Verfahren zu kennzeichnen.

Grundströms Wörterbuch ist durchgehends dokumentarisch. Im grossen Finnmarklappischen Wörterbuch von Konrad Nielsen ist dagegen die minutiöse Wiedergabe der dialektalen Aussprache nur scheinbar genau. Es dreht sich zum grossen Teil um Schreibtschkonstruktionen.


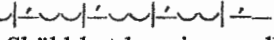
Es gilt als selbstverständlich, dass die Mitglieder einer Sprachgemeinschaft über die Lautverhältnisse ihrer Muttersprache besser Bescheid wissen als fremde Beobachter. Dies ist aber nicht immer der Fall.

In schwedischen Wörtern wie *ni*, *ny*, *nu*, *ko* ('Sie, neu, jetzt, Kuh') treten Kombinationen von Vokal+Konsonant auf, welche die meisten eingeborenen Schweden als lange einfache Vokale auffassen. Verfasser von Lehrbüchern haben sich durch die hergebrachte Analyse den Weg versperrt, so dass sie den Ausländern nicht die richtige Aussprache beibringen können. Wenn dagegen ein ungarisches Kind, das die schwedische Aussprache nur sehr unvollkommen beherrscht, statt [*skuwla*] ('Schule') [*skubla*] sagt, bekundet es damit, dass es das Wort phonetisch besser analysiert als die schwedischen Schullehrer. Diese Eigenheit der schwedischen Lautlehre hat Henry Sweet vor neunzig Jahren ins Reine gebracht.

In druckstarken mehrsilbigen finnischen Worten ruht der Hochtou auf der ersten Silbe. Meistens ist dies auch mit dem Hauptdruck der Fall. Es hat aber eine besondere Bewandnis mit Dreisilblern vom Typus *paranna*, *kahakka*, d.h. Worte mit der Quantitätsverteilung kurz-lang-kurz. In solchen Worten hört man bei vielen Finnen einen ebenso starken Druck auf der zweiten Silbe wie auf der ersten, oder sogar stärkeren Druck auf der zweiten. Als ich vor vielen Jahren diese Beobachtung mitteilte, wollten mir die finnischen Fachkollegen nicht glauben; sie waren der Ansicht, dass der Hauptdruck ausnahmslos auf der ersten Silbe ruht. Eine von Professor Sadeniemi ausgeführte Untersuchung mit Kathodenstrahloszillographen hat indessen meine Auffassung bestätigt. Die subjektive Diskrepanz kommt daher, dass die Finnen durch ihre Muttersprache sich daran gewöhnt haben, Hochtou und Hauptdruck zu assoziieren.

Andrerseits hat von den ungarischen Metrikern nur J. Lotz bemerkt, dass z.B. bei Petöfi in der Versifikation eine natura oder positione lange nicht-erste Silbe ohne Schwierigkeit einen starken Taktteil ausmacht. Nehmen wir einige Zeilen aus dem berühmten Gedicht *Szeptember végén* (die deutsche Wiedergabe ist aus Alexander Fischers "Petöfi's Leben und Werke" genommen):

Ha eldobod egykor az özvegyi fátyolt,	Doch wirfst Du von Dir der Verwittweten Schleier,
fejfámra sötét lobogóul akaszd,	Dann pflanz' auf mein Grab ihn als Trauerpanier,
én feljövök érte a síri világból,	Ich steig' dann empor aus dem Grabesgemäuer
az éj közepén, s oda leviszem azt,	Um Mitternacht, —nehme hinab ihn zu mir:
letörteni véle könyűimet érted,	Die Tränen um Dich, Du Geliebte, zu stillen,
ki könnyeden elfeledéd hivedet,	Die leichtlich vergessen Du hast Deinen Mann,
s e szív sebeit bekötözni, ki téged	Die Wunden des Herzens damit zu verhüllen,
még akkor is, ott is, örökre szeret!	Das ewig Dich liebet, selbst dort noch, selbst dann!

In diesem Gedicht gibt es, abgesehen von der letzten Silbe der Verszeile, 84 starke Taktteile. Von diesen fallen 45 auf eine metrisch lange Anfangssilbe und 38 auf eine metrisch lange Binnen- oder Endsilbe, während nur *ein* starker Taktteil auf eine metrisch kurze Anfangssilbe fällt: *az éj közepén, s oda leviszem azt.*  In dieser Zeile kann man eine Mischung von quantitierender und akzentuierender Versifikation feststellen; in den übrigen 23 Zeilen ist die Versifikation quantitierend. In einer einzigen Zeile fallen sämtliche starke Taktteile auf akzenttragende Silben: diese Zeile ist sowohl akzentuierend als quantitierend: *Ha eldobod egykor az özvegyi fátyolt.* 

Hannes Sköld hat beweisen wollen, dass im Ungarischen die Anfangsbetonung eine späte Erscheinung ist. Er berief sich darauf, dass im Rumänischen und im Serbokroatischen ungarische Lehnwörter Endbetonung haben. Sein Beweismaterial besteht

indessen hauptsächlich aus jambischen Wörtern (kurz-lang) und Wörtern mit langem Vokal in der Endsilbe. Wenn auch in solchen Wörtern die erste Silbe sowohl den Hauptdruck als den Hochton trägt, bekommt ein Fremder leicht den Eindruck, dass sie endbetont sind, besonders wenn die erste Silbe kurz ist und die zweite Silbe langen Vokal hat. Eins ist sicher: die erste Silbe trägt den Hochton. Was den Hauptdruck betrifft, glaube ich gehört zu haben, dass er auch in den jambischen Wörtern in der Regel auf der ersten Silbe ruht; wenn aber das jambische Wort in der zweiten Silbe langen Vokal hat und unmittelbar nach einem druckstarken einsilbigen Wort folgt, dürfte die zweite Silbe öfters den Hauptdruck tragen; z.B. *Nem elég* 'es ist *nicht* genug!'

Auf das einmalige Hören eines Wortes in einem fremden Idiom kann man sich nicht verlassen, wenn es sich um lautgetreues Aufzeichnen handelt. Wenn man die Ausfragemethode verwendet, ist es unter Umständen angebracht, den Gewährsmann das Wort ebensovielen Male wiederholen zu lassen, wie es aufeinanderfolgende Phoneme im Worte gibt. (Man kann nötigerweise vorgeben, dass man schwerhörig ist.) Durch Übung kann man es soweit bringen, dass man im voraus seine Aufmerksamkeit auf einen beliebigen Laut in der Lautfolge einstellt, sodass man sozusagen das Wort Punkt für Punkt auditiv durchleuchtet.

In Neu-Guinea hat ein australischer Forscher versucht, dreissig Eingeborenen-sprachen hinsichtlich ihrer gegenseitigen Verwandtschaft zu untersuchen. Er hat mit den Gewährsleuten Pidgin gesprochen. Jedem Gewährsmann hat er 60 Wörter vorgelegt (überall die selben Wörter), um sich zu erkundigen, welche von diesen Wörtern in der betreffenden Sprache vorkommen. Nun deuten die Erfahrungen, die man z.B. in Schweden und Ungarn gemacht hat, darauf, dass ein solches Verfahren unzuverlässig ist. Eine verneinende Antwort kann in solchen Fällen ebenso leicht falsch sein wie eine bejahende.

Die Duraffoursche Dialektforscherschule in der französischen Schweiz lehnt das Ausfragen ab. Man soll vorzugsweise lauschen und spontane Äusserungen aufzeichnen. Daneben kann man mit sog. *narration dirigée* arbeiten. Diese Methode setzt voraus, dass man mit dem Idiom vertraut ist, bevor man anfängt, Aufzeichnungen zu machen.

Um eine Sprache allseitig zu beschreiben, muss man soviel davon gelernt haben, dass man versteht was die Leute zu einander sagen. Sonst muss man sich beschränken.

Bevor ich i.J. 1938 nach der Türkei ging, hatte ich zwei Semester unter der Führung eines eingeborenen Lehrers Türkisch studiert. In Bursa bekam ich als Gewährsmann einen Gymnasiasten, İlhan Erkmen, der nur Türkisch sprach. Er wollte von mir Englisch lernen, und dafür liess ich ihn mir aus türkischen Schulbüchern vorlesen, wobei ich Notate über die Aussprache und besonders über den Akzent machte. In den Kaufläden funktionierte er als Dolmetscher, indem er mein schlechtes Türkisch erläuterte.

Als Schwede hatte ich mit dem musikalischen Akzent der türkischen Sprache keine Schwierigkeiten. Was den Druckakzent betrifft, der im Türkischen keine selbständige phonematische Funktion hat, kam ich bald soweit, dass ich sechs Intensitätsstufen

unterscheiden konnte. Ich hatte ja schon früher in Uppsala Beobachtungen an der Aussprache meines türkischen Lehrers machen können.

Es war mir aufgegangen, dass es im Türkischen (wenigstens) zwei verschiedene *a*-Laute gibt. Um die Verteilung der beiden Laute festzustellen, liess ich İlhan aus einem Taschenwörterbuch lesen, und nach seiner Aussprache unterstrich ich die Wörter mit blauem, bzw. rotem Stift, ohne İlhan in mein Verfahren einzuweißen. Plötzlich rief er beim Lesen: *Bu mavi!* (Dies ist blau!) Dadurch war in diesem Punkt seine naive Gewährspersoneneinstellung verloren gegangen, und er war zum Rang eines wissenschaftlichen Mitarbeiters emporgestiegen.

Ich erinnere mich an einen ähnlichen Vorfall in Lappland. Der lappische Gewährsmann war zweisprachig, und ich stellte meine Fragen in Finnisch. Eines Tages richtete ich meine Aufmerksamkeit darauf, dass ein Vokal in gewissen Fällen einen stimmlosen Abschluss hatte, in anderen nicht. Dieser stimmlose Abschluss, der an einen *h*-Laut erinnert, war sehr schwer zu hören. Ich merkte mir einige Worte, die ich dann durch angemessene finnische Fragen hervorrief. Über den Zweck dieser Fragen sagte ich nichts zum Gewährsmann, der zwar lesen und schreiben konnte, aber sonst über eine winzige Schulausbildung verfügte. Zu meiner Überraschung mischte er sich in mein Fach hinein, indem er sagte: "Hier hört man ein *h*," bzw. "in diesem Wort gibt es kein *h*."

Wir kommen jetzt zu den persönlichen Beziehungen zwischen dem Feldforscher und den Gewährsleuten. Zuförderst aber ein Wort über die Auswahl der Gewährsleute. Selbstverständlich, aber leicht zu vergessen, ist, dass der Gewährsmann, nach dem man Aufzeichnungen macht, für den zu untersuchenden Dialekt repräsentativ sein soll. Der ideale Gewährsmann wohnt seit seiner Geburt innerhalb der betreffenden Sprachgemeinschaft, und dasselbe ist mit seinen Eltern der Fall, ja, auch mit seiner Frau, falls er verheiratet ist.

Bis zu einem gewissen Grad ist Dialektmischung eine normale Erscheinung. In Härjedalen in Nordschweden ist der bodenständige lappische Dialekt durch die Mundart der aus dem nördlichen Teil von Jämtland eingewanderten Lappen überlagert. Vor 25 Jahren gab es dort einen einzigen Mann, der das reine Härjedallappische beherrschte, und auch er sprach den Mischdialekt. Er wusste aber worauf ich eingestellt war, und er bestrebte sich, jedesmal beim Ausfragen mir die alte genuine Aussprache mitzuteilen. Wenn ich z.B. fragte, wie 'neu' auf Lappisch heisst, sagte er zuerst *urrë* und dann *uddë*.

Der sprachwissenschaftliche Feldarbeiter ist ein Eindringling. Als solcher soll er versuchen, sich erträglich oder sogar beliebt zu machen. Dies ist ein Teil der Kunst mit Menschen umzugehen. Da ich hauptsächlich in Nordskandinavien tätig gewesen bin, können meine Erfahrungen kein grosses Interesse beanspruchen.

Wenn man nach einer Ortschaft geht, wo man keine gemeinsamen Bekannten hat, die eine Vermittlerrolle spielen können, ist es nicht rätlich, sich brieflich oder telephonisch zu melden; denn die Leute denken dann, dass so ein Städter wohl Ansprüche

hat, denen man schwerlich genügen kann, und so lehnt man den Gastbesuch ab. Andererseits ist die uralte Gastfreundschaft im hohen Norden noch nicht ausgestorben, und ein Fremder, der spät am Abend nach einem kleinen entlegenen Gehöft oder zu einer Lappensiedlung kommt, wird nicht schroff abgewiesen, wenn er einen leidlich guten Eindruck macht. Und in jedem Dorf gibt es wenigstens *ein* Haus, wo man einem Gast eine Schlafstätte bereiten kann. Wenn man sich nur angenehm macht und nichts verlangt, kann man auch eine Weile bleiben.

Um sich in die sprachliche Umgebung hineinzuleben, muss man jegliche Isolierung vermeiden. Vor allem ist die Ess- und Trinkgemeinschaft von Belang. Aus den achtziger Jahren des vorigen Jahrhunderts hat K.B. Wiklund von der "Frühlingskost" erzählt, welche die Nomaden im Herbstsommer vor dem Abzug aus den Gebirgsgegenden zu vergraben pfl egten, um davon bei der Rückkehr im Frühling anfänglich zu leben. "Es war nicht schmackhaft, aber es musste hinuntergehen." Damit verglichen sind die in Lappland hochgeschätzten sauren Renken, die zwar einen abschreckenden Geruch verbreiten können, eine Delikatesse, wenn man auch davon Bandwurm kriegen kann. Aber alles, was man in Lappland hat ausstehen müssen, verblasst gegen die Opfer, die die finnischen Forschungsreisenden in Sibirien der Sprachwissenschaft gebracht haben.

Alf Sommerfelts i.J. 1938 veröffentlichtes Buch *La langue et la société* handelt von der australischen Arandasprache. Er kannte diese Sprache aus recht unvollkommenen schriftlichen Darstellungen. Er brachte seinen Vorgängern kein Zutrauen entgegen; er machte den Versuch, auf Grundlage der ihm zur Verfügung stehenden Texte eine Beschreibung der Sprache zu liefern. Er glaubte, es gebe im Aranda keine Wortklassen. Es heisst wörtlich: "L'aranta ne connaît pas de différence entre le nom, l'adjectif et le verbe."

Fünf Jahre später erschien Theodor Strehlows Abhandlung "Aranda Phonetics and Grammar."

Theodor Strehlow ist als einziges weisses Kind an einer Missionsstation im Nordterritorium Australiens aufgewachsen, und er lernte Aranda gleichzeitig mit Deutsch und Englisch. Nach vollendeten Universitätsstudien kehrte er in seine Heimatgegend zurück, und er blieb dort fünf Jahre lang, um sich mit der Sprache der inizi ierten erwachsenen Männer vertraut zu machen. Es gibt bei den Arandaleuten eine ererbte mündliche Literatur, und die ausschliesslich gesprochene literarische Sprache unterscheidet sich beträchtlich von der Alltagssprache. Die Sprache der Eingeweihten ist viel formenreicher als die Gemeinsprache.

Strehlow unterscheidet in seiner Grammatik zehn Wortklassen. Das Hauptwort hat sechs Kasus und drei Numeri. Das Zeitwort hat auch drei Numeri, aber ausserdem vier Genera, und die Kombinationen von Tempora und Modi—die infiniten Formen miteinbegriffen—sind 95. Dazu kommen 70 Aktionarten. Personendungen gibt es nicht. Wenn man aber die Subjektpronomina miteinbezieht, die zum Prädikat gehö-



ren, kann man ein Verbparadigm von rund 200.000 Formen zusammenstellen.<sup>4</sup>

Die Frage nach dem Verhältnis zwischen Sprache und Gesellschaft, zwischen Sprache und Nationalität, stellt heute eine brennende Forschungsaufgabe dar. Zu ihrer Lösung braucht man genaue Kenntnis von den Sprachen solcher Völker, die von den grossen Zivilisationen unberührt geblieben sind. Dadurch sind Australien und Neu-Guinea in den Blickpunkt gerückt. Leider ist die Erforschung der betreffenden Sprachen vernachlässigt. Der letzte Tasmanier starb angeblich i.J. 1865 und die letzte Tasmanierin i.J. 1877; wie sie sprachen wissen wir kaum. Im Osten und Süden des australischen Festlandes gibt es nunmehr für sprachwissenschaftliche Feldarbeiter kaum etwas zu tun; man hat die Zeit verpasst. Die noch in Blüte stehenden Sprachen Australiens sind nicht leicht zugänglich. Die Forschungslage wäre kritisch, wenn Theodor Strehlow nicht da wäre.

\*            \*            \*

I.J. 1926 machte ich die Bekanntschaft des lappischen Renttierbesitzers John Eriksson Venni. Als ich ihn bat, sich als Gewährsmann mir zur Verfügung zu stellen, sagte er zu unter der ausdrücklichen Voraussetzung, dass ich auf Grundlage seines Unterrichtes etwas veröffentlichen würde, was dem Ansehen des lappischen Volkstammes förderlich wäre. Das Wort Unterricht ist hier ganz zutreffend, und zwar handelt es sich um Unterricht auf einem hohen Niveau. Während einiger Wochen gab mir Venni ein Privatissimum über die Terminologie der Renttierpflege, einen systematischen Lehrgang in mehreren Abschnitten. Im ersten Teil behandelte er die Haarfarben der Renttiere. Er fing so an: "Das Renttier hat fünf verschiedene Grundfarben." Die Benennungen dieser Grundfarben können auf Deutsch folgendermassen wiedergegeben werden: 1. schwarz. 2. braun. 3. isabellenfarbig. 4. weisslich. 5. weiss. Jede dieser Klassen hat mehrere Unterarten. Als weiterer Einteilungsgrund gilt bei den braunen Renttieren die Farbe des Bauches; dann kommt die Farbe des Halses. Als drittes unterscheidendes Merkmal kommt ein längsgehender heller Streifen an der Seite hinzu. Es gibt auch Schimmel und Schecken verschiedener Art. Insgesamt gibt es fünfzig Namen von Renttieren mit Rücksicht auf die Haarfarben. Das Geweih ergibt einen zweiten Haupteinteilungsgrund. Hier kommt es an auf die Verzweigung, auf die Anzahl der Hornstämme, die von Null bis zwei variiert, und auf die Krümmung und die Richtung der Hornstämme, von vorne oder von der Seite betrachtet. Die Benennungen der Renttiere nach dem Geweih sind ungefähr vierzig. Geschlecht und Alter ergeben einen dritten Haupteinteilungsgrund. Das neugeborene Kalb hat einen besonderen Namen bis es laufen kann. Wenn es neue Behaarung bekommt, kriegt es eine neue Benennung. Am Ende des ersten Lebensjahres bekommt das Kalb einen neuen Namen, der noch beiden Geschlechtern gemeinsam ist. Im Alter von anderthalb

<sup>4</sup> Vgl. Ernst Lewy, "Bemerkungen zur Sprache der Aranda," in: *Lexis*, 3; Neudruck in: E. L., *Kleine Schriften*, 1961, S. 621-628.

Jahren kriegen die männlichen und die weiblichen Tiere unterschiedliche Benennungen. Beide bekommen dann jedes Jahr wieder einen neuen Namen, das weibliche Tier bis zum fünften Lebensjahr, das männliche bis zum siebenten. Die Renttierkuh wird jährlich verschieden benannt je nachdem sie ein Kalb hat oder nicht; ausserdem gibt es für eine sterile Kuh einen besonderen Namen.

Als Carl Linnaeus i.J. 1732 Lappland besuchte, notierte er in seinem Tagebuch: "Alle Renttiere haben ihre besonderen Namen, die die Lappen ganz distinkt kennen, was mir wie ein Wunder vorkam; denn *figura ist eadem, color similis, qui singulo mense variat*. *Variat magnitudo pro aetate*, und sich in einem solchen Gewühl, gleich Ameisen im Ameisenhaufen, auszukennen, war mir unfasslich."

Die lappische Renttiernomenklatur ist eine nicht geringe kollektive Errungenschaft. Die systematische Erläuterung dieser Nomenklatur von seiten eines Nomaden, der nur einen oberflächlichen Schulunterricht genossen hatte, ist bewunderungswürdig.

Heute sind wir so weit gekommen, dass die ganz kleinen politisch machtlosen Nordvölker der Sprachforschung nicht nur Gewährsleute zur Verfügung stellen, sondern Wissenschaftler, die die Erforschung ihrer Sprachen in ihre eigenen Hände nehmen. Es gibt schon mordwinische, tscheremissische und wotjakische Sprachforscher, die Lehrkanzeln haben. Der führende Forscher auf dem Gebiete der permischen Sprachen ist ein Syrjäne, Professor V.I. Lytkin. Schon sein Vater, G.S. Lytkin, hat sich als Lexikograph und Volkskundler hervorgetan. Auch ganz kleine Völker, die nur etwa 12.000 bis 30.000 Mitglieder zählen, sind in den Vordergrund gerückt. Ich erinnere noch einmal an den samojedischen Lexikographen A.P. Pyrerka und, last, not least, an den Sprachforscher und Ethnologen Dr. Israel Ruong. Ruong ist der gründlichste gegenwärtige Kenner und Erforscher des lappischen Volkslebens. Sein Buch über lappische Verbstammbildung ist ein klassisches Spezimen der sprachwissenschaftlichen Feldarbeit. Als originale systematische Darstellung eines weitverzweigten semantischen Themas gehört es zum Rüstzeug der allgemeinen Sprachwissenschaft.

UNIVERSITETET UPPSALA, SWEDEN

# L'INTERROGATION PARTIELLE ET LA DISTINCTION NOYAU-SATELLITE

HENRI FREI

## Sommaire:

1. Interprétation traditionnelle
2. Critique de l'interprétation traditionnelle
3. Dépendance unilatérale noyau-satellite
4. Interrogation partielle indirecte
5. Autres langues
6. Traits parallèles dans la syntaxe de l'exclamation
7. Conclusion

1. On sait que la grammaire traditionnelle, au lieu de traiter les signes de l'interrogation partielle comme une classe une, les répartit entre des parties du discours différentes: pronom (*qui? quoi? que? lequel?*), adjectif (*quel?*), adverbe (*comment? combien? où? quand? pourquoi?*), et qu'elle leur attribue des fonctions diverses, toutes définies, plus ou moins indirectement, par référence à la syntaxe de l'énoncé non-interrogatif:

sujet: *Qui* est venu? (cf. *Quelle personne* est venue? *Pierre* est venu), *Quoi* de neuf? *Lequel* a raison?

attribut: *Qui* êtes-vous? *Qu'est-ce* qu'il est?

complément direct: *Qui* appelez-vous? *Que* veux-tu? Vous voulez *quoi*? *Lequel* préfères-tu?

complément indirect: *De qui* parles-tu? *A quoi* cela rime-t-il? *Avec lequel* viens-tu?

complément circonstanciel: *Quand?* (cf. à quelle heure? à 5 h.), *Où?* (en quel endroit?), *Combien?* (en quelle quantité?), *Comment?* (de quelle manière?).

2. Cette conception traditionnelle est loin d'être inattaquable.

D'une part, la distribution entre des parties du discours différentes aliène les uns des autres des mots dont on a le net sentiment qu'ils vont ensemble.

D'autre part, en ce qui concerne les rôles syntaxiques, la linguistique intuitive ou impressionniste a reconnu depuis fort longtemps qu'en dépit de ceux-ci tous les interrogatifs partiels présentent un trait commun, qui est d'exprimer le «prédicat psycholo-

gique». Voici, par exemple, ce que Sechehay pensait de l'interrogatif *qui*?

«Quand on pose la question: *Qui est malade?* on attribue au pronom le rôle de sujet grammatical; or en fait cette phrase revient à dire: *Le malade est qui?* et l'idée sur laquelle porte l'interrogation ne peut être que prédicative. On le voit bien par la réponse: *C'est Jean*; et si je dis: *Jean est malade*, «Jean» est dans mon énoncé sujet grammatical, il est vrai, mais en réalité prédicat psychologique. Ceci est un simple échantillon pris parmi une foule de faits semblables, et depuis longtemps on s'est habitué à opposer, aussi bien dans la langue que dans <p. 120> la parole les distinctions formelles de la grammaire aux réalités psychologiques qu'elles recouvrent. En effet, ces désaccords ne sont pas seulement des produits occasionnels de la liberté dont un sujet parlant use à l'égard des normes grammaticales (exemple: *Jean est malade* pour: *C'est Jean*), mais ils se trouvent parfois consacrés par l'usage et par l'institution linguistique elle-même (exemple: la formule interrogative: *Qui est malade?*).» (p. 119-120)

Il reste à expliquer ce désaccord entre «grammatical» et «psychologique» en examinant successivement ces deux notions; il se résume dans l'opposition entre théorie des transpositions et analyse structurale.

Si, dans l'exemple de Sechehay (*Qui est malade?*), le pronom est considéré comme le sujet grammatical, c'est évidemment en vertu de la comparaison avec des phrases non interrogatives telles que *Jean est malade*, *Il est malade*, etc., et il en est de même pour toutes les autres fonctions. Exemple: *Ça a coûté combien?*: *Ça a coûté 10 fr.* (complément circonstanciel). Il semblerait donc que *qui?* et *Jean*, respectivement *combien?* et *10 fr.*, etc., font partie de la même classe de substitutions. Or, il n'en est rien.

La technique des substitutions exige en effet qu'au cours des tests la catène, p. ex. le type prosodique et en particulier l'intonation, reste identique (Frei 1968, § 3), ce qui n'est évidemment pas le cas ici. Il ne s'agit donc pas de membres d'une même classe de substitutions, mais de transpositions<sup>1</sup> entre le mode déclaratif et le mode interrogatif.<sup>2</sup>

3. Au contraire, la notion de «prédicat psychologique» est conforme, dans le cas présent, à la technique des substitutions; elle correspond, dans une relation tactique de dépendance unilatérale, au noyau par opposition au satellite et, dans la relation non-tactique (*alias* associative, paradigmatic, etc.) correspondante, à celui des deux termes qui peut tenir lieu de l'ensemble. Ainsi *Qui est malade?* est remplaçable par *Qui?* tout court, mais non par la tranche *[est malade?]*. De même, *Combien?* peut figurer à la place de *Combien ça a coûté?* ou *Ça a coûté combien?*, mais la tranche

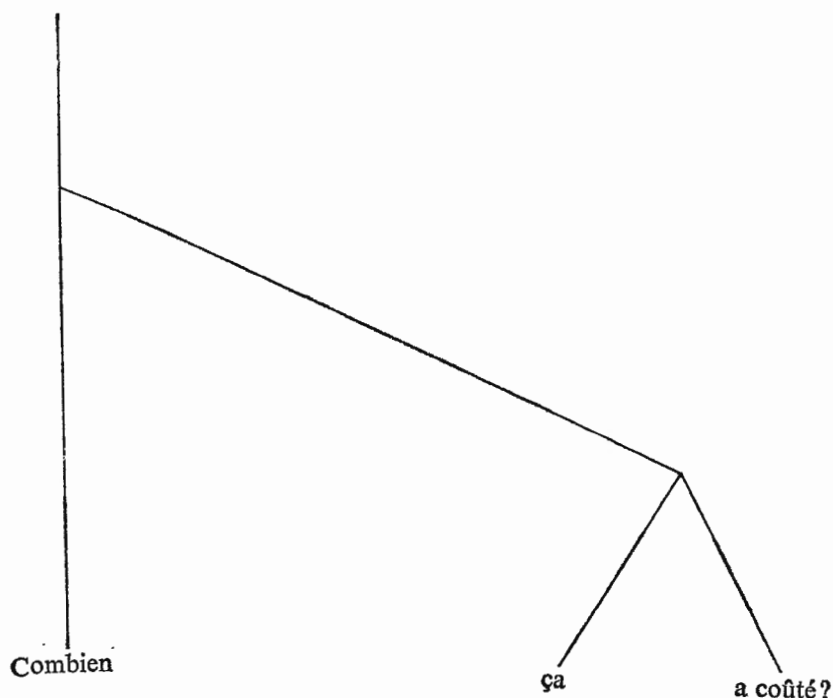
<sup>1</sup> La «grammaire générative» les appellerait des «transformations». J'évite ces termes, qui risquent de réacclimater la confusion synchronie-diachronie.

<sup>2</sup> Dans le cas de la transposition, il y a changement de catène entre le transposende et le transposé: Frei 1968, § 5.1.

/ça a coûté?/ ne saurait fonctionner isolément sans changer de sens (modalité) et d'intonation. Comme l'a fait ressortir Bally (note 5, p. 11), «... c'est l'intonation qui estampille la phrase en tant que signifiant, de même que la modalité l'identifie comme signifié.» Dans l'interrogation partielle, seul le noyau, donc le mot interrogatif, est pourvu de la modalité et de l'intonation qui font de celle-ci un énoncé.

La représentation graphique de l'interrogation partielle sera donc une «phrase-poteau» (cf. Frei 1967), où la figure du poteau symbolise le noyau indépendant:<sup>3</sup>

Fig. 1

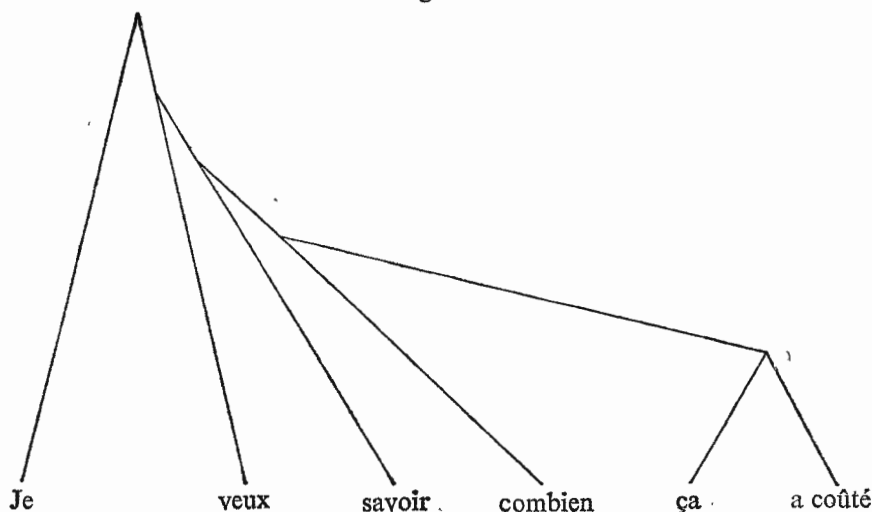


Toutes les interrogations partielles directes peuvent être figurées comme des phrases-poteaux. L'interprétation ici proposée a l'avantage de réintégrer les interrogatifs partiels en une classe homogène définie par une fonction unique: celle d'indépendance quand ils sont seuls (quasi-phrases), celle de noyau quand ils sont accompagnés (phrases-poteaux).

4. L'interrogation partielle indirecte est une interrogation partielle transposée (condensée) en un membre de phrase: *Combien ça a coûté?* → Je veux savoir *combien*

<sup>3</sup> On remarquera que naguère (Frei 1966, Fig. 7) j'ai représenté la même phrase encore selon la conception traditionnelle (*combien?* conçu comme satellite de *a coûté*).

Fig. 2



*ça a coûté*. Ce dernier fonctionne ici comme le satellite de *savoir*; l'interrogatif *combien* continue à être le noyau dans *combien ça a coûté*, mais il a perdu sa modalité et son intonation d'énoncé autonome et ne sera donc plus représenté par un poteau:

5. On peut présumer que des structures semblables se retrouvent partout où l'interrogation partielle (directe ou indirecte) est exprimée par des mots spéciaux.

Ainsi, l'interrogation anglaise *Where shall I send it?* (396)<sup>4</sup> peut être remplacée par le noyau *Where?* sans cesser d'être un énoncé, mais le satellite, c'est-à-dire la tranche *[shall I send it?]*, ne saurait devenir un énoncé qu'en changeant complètement d'intonation et de modalité; elle serait alors une interrogation totale, comme en français: *Dois-je l'envoyer?*

On comparera avec la phrase japonaise correspondante:

*Dočira e o-todoke šimašō ka*

どちらへお届けしましょうか。

L'ensemble est remplaçable par *Dočira e* 'Où?' (noyau), mais non par *o-todoke šimašō ka* (satellite), qui, pour former un énoncé indépendant, devrait changer de sens et d'intonation.

Dans le parler local de Pékin, l'expression familière correspondante serait en général:

suŋ <sub>4</sub>	tao	na <sub>3</sub> <sup>1</sup>	ž	a ?
送	到	哪兒		啊
envoyer	à	où ?	(liaison)	(particule finale)

<sup>4</sup> Les exemples suivis d'un chiffre entre parenthèses se réfèrent aux numéros de mon *Livre des deux mille phrases*.

Ici de nouveau, le noyau (*tao na<sub>s</sub><sup>1</sup> -ž-a?*) pourrait figurer seul, avec même modalité et même intonation, à la place de la phrase complète, mais le verbe (*suŋ<sub>4</sub>*) n'a dans ce contexte ni la modalité ni l'intonation d'une phrase indépendante. Il s'agit donc d'un énoncé du type satellite-noyau.

Dans la langue asanté parlée à Koumassé (Ghana), l'expression correspondante serait:<sup>5</sup>

<i>ehene</i>	<i>na</i>	<i>memma</i>	<i>yenfa</i>	—	<i>nko ?</i>
où	est-ce que	je permettrais	qu'on prenne		pour aller ?
			qu'on envoie		

Comme dans tous les exemples précédents, la phrase entière peut se remplacer par l'interrogatif isolé (*ehene*), tandis que le reste ne saurait fonctionner isolément sans changer de modalité et d'intonation.<sup>6</sup> Il s'agit donc d'une phrase-poteau noyau+satellite.

Le fait que dans des langues aussi différentes l'interrogation partielle présente la structure d'une phrase-poteau, composée d'une quasi-phrase interrogative accompagnée d'un satellite (type  $\backslash$  ou  $/$ ), pourrait bien être un trait panlinguistique (un "language universal").

6. Bien que le fait n'ait pas encore trouvé d'explication satisfaisante, les structures interrogatives et exclamatives sont souvent parallèles. On signalera ici deux types exclamatifs. Dans l'un comme dans l'autre, l'énoncé débute par un adverbe (ou une locution) pourvu d'une intonation exclamative et qui constitue le noyau; aucune pause ne le sépare du satellite suivant.<sup>7</sup> Premier type:

*Jamais!* je ne lui pardonnerai ça, jamais! (825)

*Vraiment!* je n'ai pas de tête! (903)

L'exclamatif initial peut tenir lieu de l'ensemble: *Jamais!*, *Vraiment!*, mais la seconde partie ne possède ni la modalité ni l'intonation propres à un énoncé.

Le second type diffère du premier par le fait que le noyau se termine en *que*:

*Avec ça!* que j'ai tort!

*Bien sûr!* qu'il viendra! (1037)

*Heureusement!* qu'il t'a pardonné!

*Mon Dieu!* que tu es bête!

*Plus souvent!* que je vous les rende, vos 15 francs!

*Sans doute!* qu'il a raison!

<sup>5</sup> Exemple obligeamment communiqué par Paul Boakye, étudiant ghanéen.—Les trois nasales imprimées en italiques expriment la modalité optative.

<sup>6</sup> Comme en français (*où est-ce que?/où?*), *ehene na* et *ehene* forment une alternance.

<sup>7</sup> Le point d'exclamation placé au-dessus de la ligne à la suite de l'adverbe indique que celui-ci est pourvu d'une intonation exclamative sans être séparé du mot suivant par une pause.—On sait que ces adverbes initiaux peuvent aussi se prononcer sans intonation exclamative; dans ce cas, ils ne sont pas nucléaires, et la structure de la phrase sera différente.

En revanche, ce *que* est absent lorsque l'exclamatif fonctionne à la place de tout l'énoncé. Il y a donc alternance:

*Avec ça<sup>1</sup> que j'ai tort!*

*Avec ça!*

Ces deux sortes d'énoncés exclamatifs se résument dans les mêmes types de graphes que les interrogations partielles directes. Ce sont des phrases-poteaux.

7. Les faits ici étudiés tendent à montrer que, dans la syntaxe de l'interrogation et de l'exclamation, la structure de l'énoncé est commandée par l'intonation en liaison avec la modalité.

UNIVERSITÉ DE GENÈVE, SUISSE

#### RÉFÉRENCES

- Bally, Charles, 'Syntaxe de la modalité explicite,' CFS 2 (1942), pp. 3-13.
- Frei, Henri, *Le livre des deux mille phrases* (Publications romanes et françaises, 40), Genève, Droz 1953, réimpr. 1966.
- , 'Modes de réduction des syntagmes,' CFS 22 (1966), pp. 41-51.
- , 'Quasi-phrases et phrases-poteaux,' *To Honor Roman Jakobson* (The Hague, Mouton 1967), pp. 688-691.
- , 'Syntaxe et méthode en linguistique synchronique,' *Enzyklopädie der geisteswissenschaftlichen Arbeitsmethoden* (Lief. 4: Sprachwissenschaft), hrsg.v. M. Thiel, München, Oldenbourg, 1968, pp. 39-63.
- Sechehaye, Albert, *Essai sur la structure logique de la phrase* (Collection linguistique, 20), Paris, Champion 1926.



# CURRENT ISSUES IN EXPERIMENTAL PHONETICS

OSAMU FUJIMURA

Among the different disciplines of science, linguistics is certainly one that has displayed most remarkable progress in the past ten years. The progress is well appreciated in the field of theory of grammar. The science of language, like physics, is an empirical science, however, and observation motivates and justifies a particular development in theory. Thus, it is no wonder that the invention of new techniques for observation of speech phenomena stimulated the development of the theoretical framework of the distinctive feature theory.<sup>1</sup> As one such technique, we must cite the invention of the sound spectrograph, some twenty years ago, in connection with development of magnetic sound recording techniques, leading to a new stage of phonetics by advancing understanding of the acoustical aspects of language.

If this invention had not been associated with the development of speech synthesis techniques, however, the present progress in speech science would not have come about. In order to make the methodological loop of observation and theoretical prediction complete, we needed an appropriate means to empirically evaluate the consequences of theoretical prediction. Just as we needed a laboratory in physics to set up an experimental situation well under the control of known factors, we likewise wanted devices to simulate speech processes in order to exclude uncontrollable human factors from the phenomena under quantitative observation.

When the author worked with Professor Hattori at the Kobayasi Institute of Physical Research about twelve years ago, there was no effective speech synthesizer available for our experimental work. Since we were interested in checking our theories of nasalization of vowels that we derived from analyses of natural samples, we devised means to do so by special partially synthetic simulation techniques.<sup>2</sup> The situation is now changed substantially. The wide use of high-speed digital computers, particularly in the interactive mode of use, made us capable of testing almost any idea that we could explicitly formulate by evaluating precisely controlled stimulus conditions with responses of human subjects.

We are now in the midst of the age of rapid progress in using interactive evaluative procedures. As techniques advance in simulating the speech production process, we find ourselves needing more ideas and factual knowledge. In particular, we find in

---

<sup>1</sup> Cf. Jakobson *et al.* (1951).

<sup>2</sup> Cf. Hattori *et al.* (1958).

this modern age of technology, that we know very little about our own behavior in pronouncing sounds. For example, for a long time it has been an open question whether the glottis is open during the stop period of unaspirated p, t, or k in some languages like French; while there have been good discussions and the problem is well formulated,<sup>3</sup> we just do not know the facts. Phoneticians have compiled literature on articulatory characteristics of vowels and consonants of different languages and dialects, in much detail, and Professor Hattori's *Phonetics*<sup>4</sup> no doubt represents one of the most comprehensive works in this field. Nevertheless we have trouble in determining the cross-sectional areas at different positions along the vocal tract, when we try to define inherent configurations for the articulation of various phonemes for a synthesis-by-rule experiment. It is a challenging problem for us to set up a quantitative model of the articulatory system with an appropriate set of variables. Some dynamic models for articulatory movements have been proposed, as discussed later, but they are still far from perfect. Once we have a proposal for the model, we can readily corroborate or refute it. Even an untrained native speaker can listen to the synthesized sound and evaluate the adequacy of the model.

In another sense, however, now is a difficult time to be a good experimental phonetician. To be convincing the experimenter must be quantitative, but if he is, any defect of his model is easy to determine. Many ideas of great phoneticians of the past are now to be reformulated for quantitative study and empirical test. Under the searching light of experimental method, good dreams must be brought face to face with behavioral evidence.

In the following, we will try to review briefly the kinds of techniques we have acquired for observing facts about speech production processes, and discuss their relevance to our understanding of the essentials of speech and language.

## 1. SOME NEW TECHNIQUES FOR ARTICULATORY MEASUREMENTS

### 1. 1. *X-ray observations*

For a long time, cineradiography, both at normal frame rates and in higher speeds, has contributed to our understanding of articulatory, and to some extent phonatory movements<sup>5</sup> by providing knowledge of the state of relevant organs, the tongue in particular, during speech production.

In recent years, our concern has concentrated on a general and quantitative description of articulatory dynamics and the temporal organization of speech, viz. a model of the speech production process, rather than on collecting qualitative estimates of salient articulatory characteristics of different phonemes. In order to achieve this

<sup>3</sup> Cf. Fischer-Jørgensen (1963).

<sup>4</sup> Cf. Hattori (1951).

<sup>5</sup> Russell (1928), Sovijärvi (1938), Satta (1939), Chiba and Kajiyama (1941), Truby (1959), Bosma and Lind (1960), Fant (1960), Stevens and Öhman (1963), Heinz and Stevens (1964), DeClerk *et al.* (1965), Flanagan (1965), Hollien (1965), Öhman (1967), Houde (1968a), Houde (1968b).

aim of experimental phonetics, while recognizing the inherent fluctuation of human activities, we must find ways to carry out a systematically scheduled experiment of a fair size that is firmly based on both theoretical predictions and previous data. In particular, two conditions must be emphasized: (1) the body of data be large enough to accommodate lists of phonological samples carefully prepared for comparisons *ceteris paribus*, and to allow repetition by the same speaker as well as by different subjects; and (2) the procedure for extraction of necessary information from the raw data be handy enough to allow immediate feedback of the current findings to the experimental schedule.

To meet these requirements in radiographic studies, it is first of all essential to substantially reduce the radiation dose given to the subject. With today's best standard techniques of taking x-ray movies, a total exposure of a few minutes is generally accepted as the maximum permissible for one subject during the length of time of a typical experiment. With this restriction, for example, a well planned and successful experiment was recently reported by Houde.<sup>6</sup> He used small markers (gold domes) stuck onto the tongue, and made exact measurements of their movements during the production of a list of nonsense trisyllabic words.

At the Research Institute of Logopedics and Phoniatics, University of Tokyo, we are now developing an essentially new radiographic technique, where an interactive computer is used for dynamic control of an x-ray microbeam. The radiation dose can be minimized nearly to the theoretical limit by exposing the subject's body to the beam only at the necessary spatial regions at the very necessary time moments. This can be achieved by the on-line computer control placed in a feedback loop of the information flow. Deflection of the X-ray microbeam is achieved through a combination of a direction-controlled electron beam that hits a selected spot on the target and a fixed pin-hole for the X-rays, and the beam intensity through the body structure is measured by a scintillation counter of very high sensitivity. A schematic diagram of this new procedure is given in Fig. 1; details of the technique are reported elsewhere.<sup>7</sup> It is hoped that within a few years this new method will provide us with experimental means that satisfy at the same time both of the requirements specified above.

## 1. 2. Palatography

Another new technique for observing tongue movements also has been developed at our laboratory. In this method about 60 pairs of electrodes are embedded in a very thin artificial palate, and the contact of the tongue is recorded as functions of time at these many different points on the palate. The results can be recorded on spectrographic record paper in combination with the sound spectrogram of the speech wave. The palatal signals constitute a bundle of amplitude-modulated signals of

<sup>6</sup> Cf. Houde (1968b). Also see the note on p. 130.

<sup>7</sup> Cf. Fujimura *et al.* (1968).

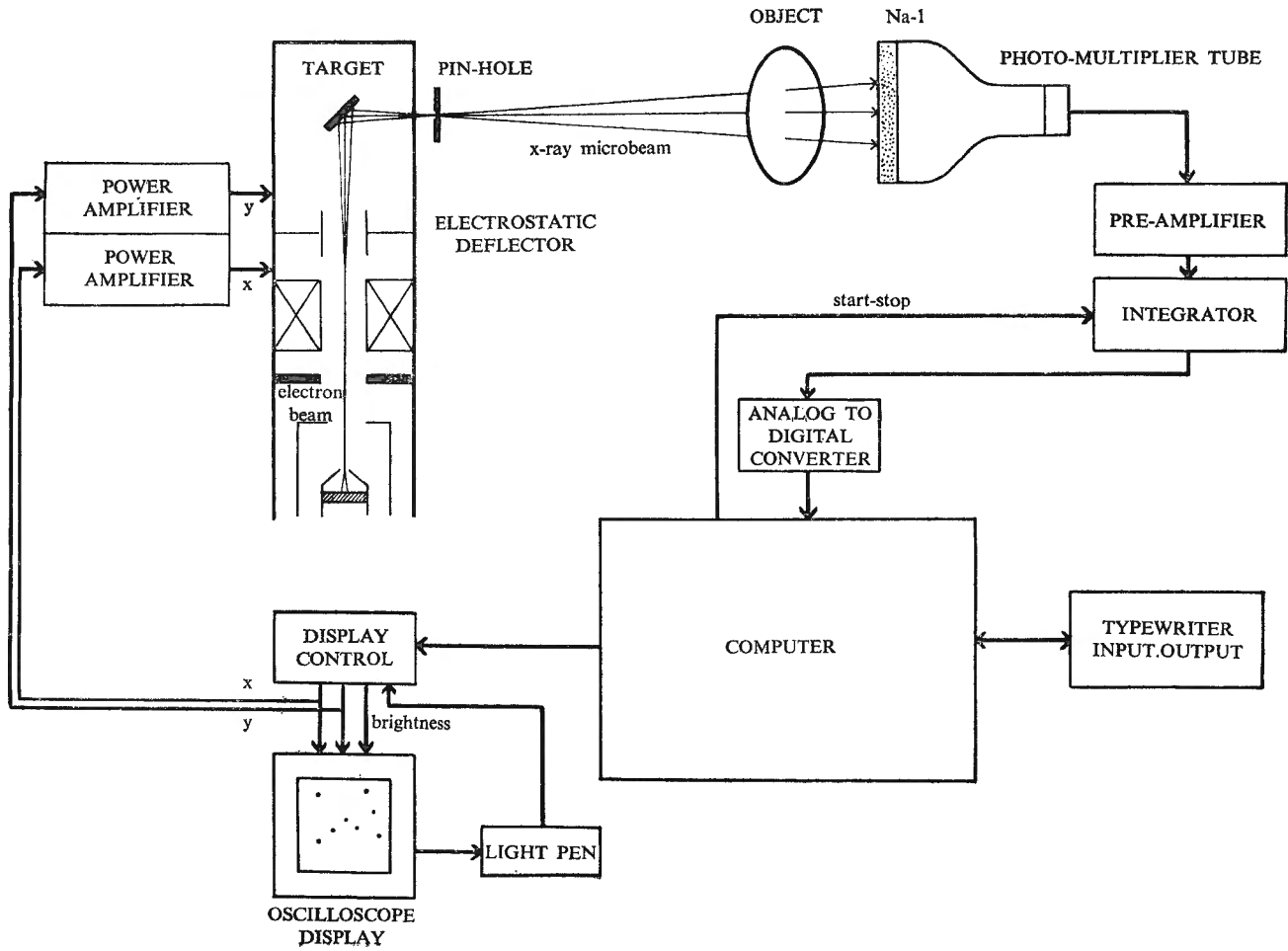


Fig. 1 A block diagram of the new X-ray system for collecting articulatory data while using a minimal radiation dose.

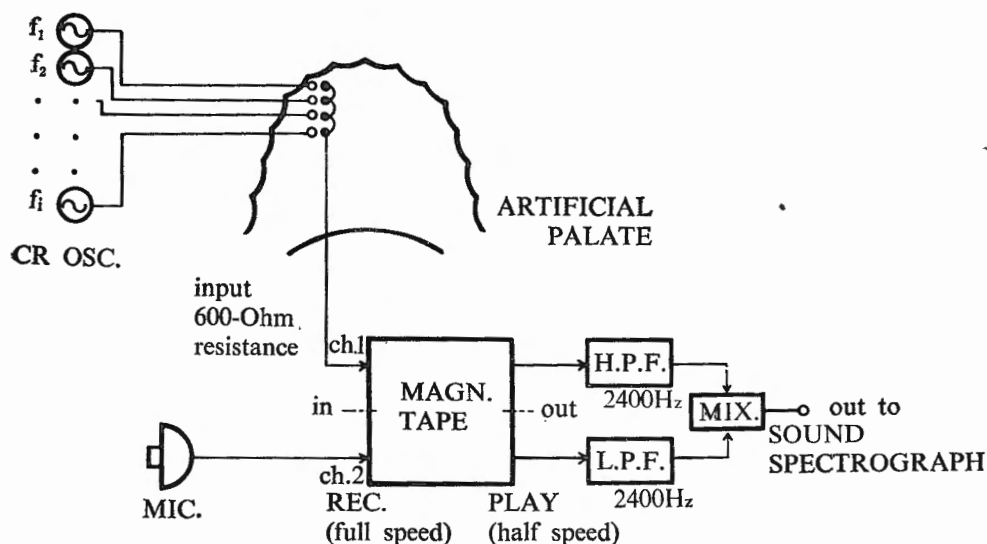


Fig. 2 A block diagram of the palatospectrographic procedure.

appropriately assigned frequencies, and are summed together with the speech signal. This combined signal is analyzed and displayed by a standard sound spectrograph.<sup>8</sup> A block diagram of the process is given in Fig. 2 and some examples of palatospectrograms thus obtained are illustrated in Fig. 3. The signals obtained by this artificial palate also can be used in conjunction with a laboratory digital computer to derive a motion-picture type display of lingual contact. Even though the observation is limited to defining contact-noncontact distinctions at different positions on the hard palate, various facts about articulatory dynamics and the temporal structure of phonological forms can be studied without any time-consuming data processing, once palates are made for the individual subjects. The manner and degree of phonetic assimilation can be quantitatively studied, and, for example, we will be able to determine, perhaps in conjunction with other experimental techniques, the quantitative adequacy of Professor Hattori's assertion<sup>9</sup> that Japanese [ʃi] and [ni] represent the same consonants as in [sa] and [na], respectively, whereas [tʃi] does not represent the same phoneme as in [ta]. Interindividual variations and pathological cases are also of much interest and can be studied quantitatively by this technique.

<sup>8</sup> Cf. Shibata (1968).

<sup>9</sup> Cf. Hattori (1961).

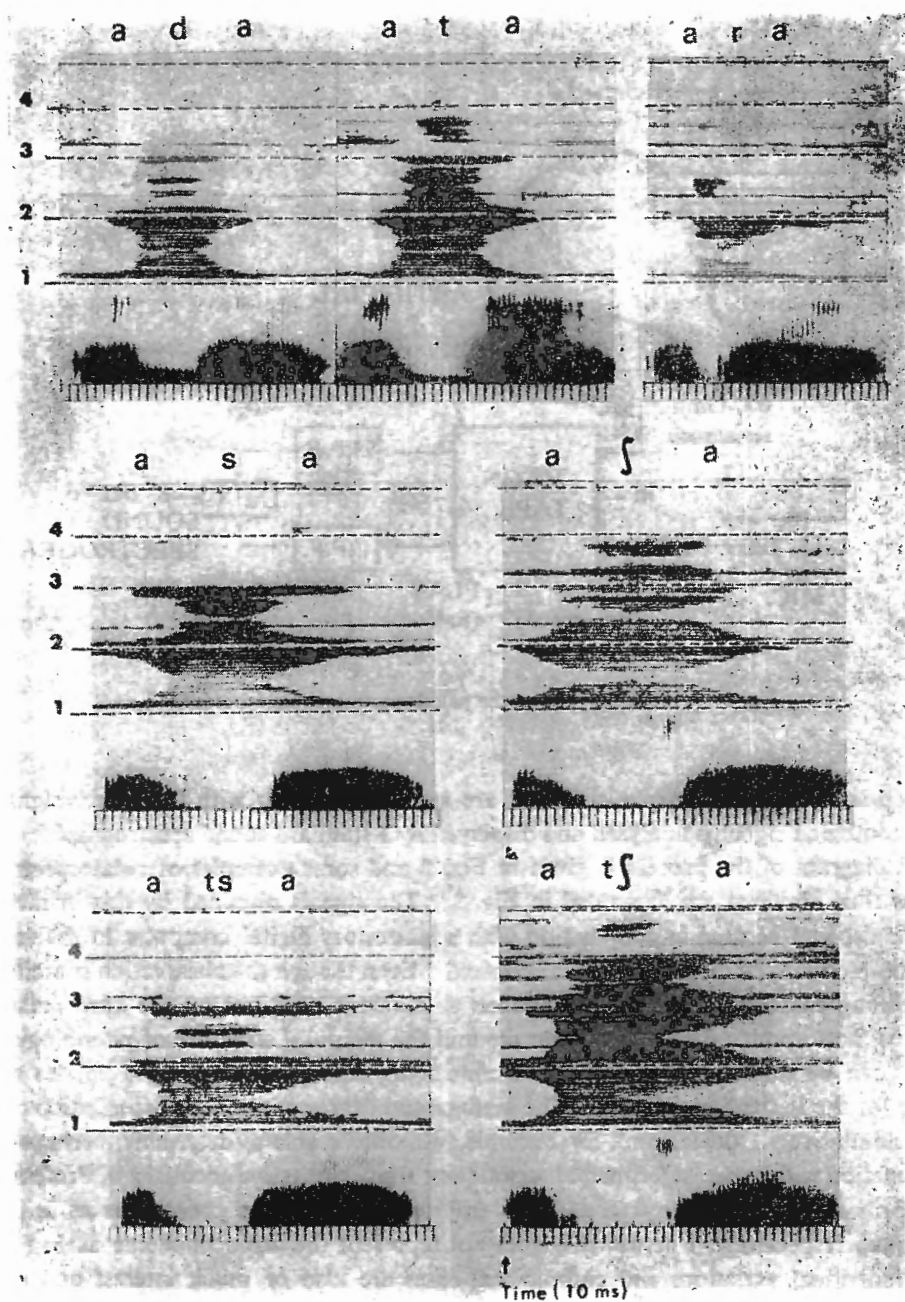


Fig. 3 Examples of dynamic palatograms (palatospectrograms). The upper portion of each record represents time changes in contacts at the palatal electrodes, the lower portion represents the sound spectrogram.

### 1. 3. *Optical observations*

Visual observation of articulatory movements has been, perhaps next to auditory evaluation, the most elementary and fundamental technique in phonetics. It is still one of the most useful research techniques, particularly when equipped with modern devices such as fiberoptics, high-sensitivity photomultipliers, etc., sometimes in combination with an interactive computer.

Effective use of high-speed photography in this field had been somehow ignored until several years ago.<sup>10</sup> A moderately high frame-rate, like a few hundred per second, is usually sufficient to obtain useful information about movements of the lips and the mandible. At these rates clear still pictures for accurate measurements can be obtained from each exposure without difficulty, particularly by using the modern pulsed stroboscopic technique with a very short exposure time.

Thus for those parts of the speech mechanism that can be optically observed from outside, there is no problem of radiation. Since optical measurements give accurate data without interfering with articulatory actions, it is superior to other techniques requiring mechanical measurements.<sup>11</sup> The weakness of optical measurement is that it requires tedious and time consuming data processing, by which the raw data are to be interpreted in terms of significant articulatory variables. Some techniques have been devised in order to record the data directly as curves representing these variables,<sup>12</sup> but, in general, direct observation of the body surface is more informative and freer from errors because of the information redundancy involved. For example, it is desirable to observe the entire shape of the lips or the outline of the mouth orifice and define the central or maximum distance between the lips, rather than to record only the distance between two fixed central points specified on the lips. The mandible position also is not easy to estimate through measuring the position of a spot specified on the skin that covers the bone, because the skin shifts in relation to the bone. The distance between the upper and lower teeth is more reliable as a measure of the jaw opening, but the teeth are not always observable during different articulations. The entire outline of the mandible in profile is available for exact measurements, but for this we need a complex logical procedure that traditionally has been applied by a human experimenter when he examines the profile motion picture frames. We can now replace this man by a machine and apply the same technique of interactive use of a digital computer described for x-ray measurements. An oscilloscope display tube is used in place of the x-ray microbeam generator, specifically its target surface, and the scanning technique, adaptively controlled by the computer in accordance with the moment by moment results, can be identical with that in the x-ray experiment. This experiment is now in schedule in our laboratory.

Another marked advance in optical measurements is the application of fiberoptics,

<sup>10</sup> Cf. Fujimura (1961).

<sup>11</sup> Cf. Stetson (1928).

<sup>12</sup> Cf. Kozhevnikov and Chistovich (1965), Chapter 2.

particularly in connection with laryngeal observations. A thin cable of fiberoptics is inserted through the nasal passage in order to observe and record the laryngeal view during articulation. Until this technique was developed and tested by Sawashima *et al.*<sup>13</sup> it was simply impossible to visually observe the laryngeal conditions except when the mouth was wide open. One can now examine a larynx directly by eye—even one's own larynx—while essentially any speech sound is being produced. So far the frame rate for motion pictures is limited to a moderately high speed, but it probably will not be difficult to increase the rate substantially. We are investigating the possibility of using lasers as an intense and harmless light source. Also technical improvements are about to provide thinner and better controlled fiberscopes.

A quantitative recording of the area of glottal opening can be made also in the form of a "photo-electric glottogram" by measuring the light flux that comes out through the glottis, the subglottal trachea wall, and the frontal skin, a technique of transcutaneous measurement of light called transillumination originally devised by Sonesson.<sup>14</sup> Ohala at U.C.L.A. phonetics laboratory modified the technique to make use of a photo-sensitive semiconductor element inserted through the nasal passage to record the lightflux.<sup>15</sup> In our scheme the fiberscopic observation of the laryngeal condition is made simultaneously with the light flux measurement, and therefore the data can be protected from errors due to displacement of the illumination beam, etc. A typical example of the fiberscopic data thus obtained is given in Fig. 4.

Some preliminary studies using the fiberscope have been made on Japanese consonants, and many interesting facts have been found even in this early stage. In particular, the glottal conditions for different voiceless consonants have been examined, and one of our tentative conclusions is that the maximum opening of the glottis is generally larger for fricatives than for stops; this is particularly true in the so-called geminate consonants (sokuon). The glottis is no less open for [h] than for [s] in the same environment, but in spite of the wide opening, the vocal cords tend to vibrate throughout the nonvocalic period when [h] is in an intervocalic position.

For other languages that have the aspirated-nonaspirated distinction among voiceless stops, data are still to be collected from native speakers. A dialect of Korean<sup>16</sup> has been examined for comparison of the so-called tense nonaspirated, the lax, and the heavily aspirated stops, and it has been determined that the glottis is not closed during the closure period of the tense nonaspirated stops, in accordance with Kim's conclusion.<sup>17</sup> A more systematic study is necessary before we can draw a firm conclusion

<sup>13</sup> Cf. Sawashima and Hirose (1968a), Sawashima *et al.* (1968b), Sawashima (1968c), Sawashima (1968d).

<sup>14</sup> Cf. Sonesson (1960).

<sup>15</sup> Cf. Ohala (1966). Similar modifications had been tried by the research group at Haskins Laboratories. The desirability of inserting fiberoptics through the nasal passage was also mentioned by F.S. Cooper, cf. Lisker and Abramson (1964), and Malécot and Peebles (1965).

<sup>16</sup> The Taegu dialect, the stop consonants of which are examined and discussed in regard to acoustical characteristics by the Umedas. Cf. Umeda and Umeda (1965).





Fig. 4 The sound spectrogram, selected frames of the motion picture and a photo-electric glottogram taken simultaneously during the production of a sample sentence.

about the characteristics of glottal control for these consonants.

## 2. ARTICULATORY CONDITIONS AND ACOUSTIC CHARACTERISTICS

Since the time of the well-known treatise *The Vowel, its Nature and Structure* by Chiba and Kajiyama published in 1941, there have been substantial contributions by many speech scientists to our understanding of the physical aspects of the speech production mechanism. Fant, in particular, proposed a successful approximation to the acoustical description of the vocal-tract characteristics in terms of a general framework of pole-zero expansions of its transfer function. His *Acoustic Theory of Speech Production*<sup>17</sup> provided a firm basis for further experimental studies including the "Analysis-by-Synthesis" approaches by Stevens and many others.<sup>19</sup> These works also

<sup>17</sup> Cf. Kim (1967) and also Chomsky and Halle (1968), p. 315.

<sup>18</sup> Cf. Fant (1960).

<sup>19</sup> Cf. Stevens (1960), Bell *et al.* (1961), Mathews *et al.* (1961), Fujimura (1962), Halle and Stevens (1962), Paul *et al.* (1964).

are characterized by extensive use of digital computers; spectral characteristics of vowels and various consonants have been accurately measured in terms of the formant-antiformant structure.

When the speech waveform is analyzed, some difficulty is encountered in separating the voice source characteristics from the vocal-tract transfer function. The periodicity of voice and the resultant harmonic structure of the spectrum, as well as the unknown and variable voice-spectrum envelope, limits accuracy with which the detailed transfer characteristics can be estimated. In order to obtain precise data, direct acoustic measurements of the vocal-tract characteristics have been made with a sweep-tone excitation.<sup>20</sup> Based on these measurements, details of the vocal-tract characteristics from the acoustical point of view are now better known.

All these experiments have corroborated that the acoustical theory of speech production is a successful approximation of the real process, and at the same time clarified the nature of the approximation or the limitations of the theory. For example, it has been shown that the assumption of a rigid wall surrounding the tract results in an erroneous interpretation of formant damping and also, in some cases, of the first formant frequency.<sup>21</sup> Another important limitation involves the interaction of the vocal-tract and the vocal-cord vibration. Flanagan<sup>22</sup> recently made a quantitative estimate of this glottis-tract interaction by a numerical calculation based on van den Berg's myoelastic theory of vocal-cord vibration.<sup>23</sup> Here again, an effective use of an interactive digital computer is demonstrated. Flanagan's result, given in terms of the sound that is supposed to be heard when the vocal-cord parameters are kept constant during changes in vowel articulation, shows that for some conditions a clear change in the fundamental frequency is perceived. Related problems concerning the voice source controls have been investigated by Ladefoged, particularly in connection with the problem of stress.<sup>24</sup> In this work preference of the physiological variables to acoustic ones is demonstrated for relating physical quantities to phonological units.

The acoustical characteristics of the output speech wave can be determined as the effect of the physical cause that can be expressed in terms of articulatory and phonatory control variables, if we have an appropriate model of the speech production systems for defining such effective variables. Specifically, a differential equation and boundary conditions can be given for determining the formant frequencies from the vocal tract area functions for different vowels. The inverse is not true; that is, given the formant frequencies or locations of poles of the vocal-tract transfer function, we cannot uniquely determine the vocal tract area function. This problem has been studied in some detail

<sup>20</sup> Cf. van den Berg (1955), Fujimura and Lindqvist (1/1964), Fujimura and Lindqvist (2/1964), Fujimura and Lindqvist (3/1964), Fujimura and Lindqvist (1965), Fant (1968).

<sup>21</sup> Cf. Fant and Sonesson (1964), Fujimura and Lindqvist (3/1964).

<sup>22</sup> Cf. Flanagan and Landgraf (1968).

<sup>23</sup> Cf. van den Berg (1958).

<sup>24</sup> Cf. Ladefoged (1963), Ladefoged (1967).

by Mermelstein, using the mathematical perturbation method.<sup>25</sup> He concluded that symmetric components of the area function, when it is expressed as a series expansion, are irrelevant to the formant pattern, and consequently the area function can take infinitely many different forms for a given spectral characteristic of the vowel.

This is of particular interest when we consider how many details of the tongue articulation a phonetician can discuss by simply listening to a vowel sound. In reality, he usually can visually observe some articulatory characteristics, not only the lip opening, the jaw angle, but also some reflections of contractions of various internal muscles relevant to the tongue articulation. When he observes the change of articulation continuously, as in real cases, there may be found additional reasons for preferring one configuration to another at a given instant of time. And above all, not all area functions, even for static gestures, can be actualized by our physiological system. In order to study these problems effectively, it seems necessary to construct a more specific model of the articulatory system in terms of realistic control variables.

### 3. SPEECH SYNTHESIS BY RULE

When the sound spectrographic technique for speech analysis was developed, close examination of the spectrographic characteristics of speech gave birth to concepts such as the formant bar, the spike, the vertical striation and, so on.<sup>26</sup> These were all physical characteristics that were typically found for certain sound units—vowels and consonants—, but they occur in complex combinations and sometimes they seem variable to a large extent. Human auditory acuity, as is well known, is extremely good for some specific features of sound, and it is not easy to decide which auditory cues, viz. the perceptual determinants for identification of sound units like phonemes or distinctive features, carry specific phonological functions. For crucial experiments on these issues, it was necessary to produce sound by specifying the particular spectrographic characteristics in question. Many spectrographic characteristics recur regularly in our experience with speech, but some of them may not be perceptually important. In order to estimate which are more important as the cues and which are simply incidental, we needed to suppress or artificially modify certain acoustic characteristics while holding others constant, and to listen to the sound thus generated under good control and with high reproducibility.

The first attempt at the “playback” of natural or patternized spectrograms was made by Cooper *et al.* at the Haskins Laboratories in New York.<sup>27</sup> The synthesizer they ingeniously devised was a unique device at the time when there was no other synthesizer that incorporated time-varying controls. Physicists and electrical engineers, psychologists and linguists participated in extensive and systematic series of synthesis-

---

<sup>25</sup> Cf. Mermelstein (1967).

<sup>26</sup> Cf. Potter *et al.* (1947).

<sup>27</sup> Cf. Cooper *et al.* (1951).

listening experiments, and the effective use of this simple special apparatus produced interesting and essential findings. In particular, the perceptual roles of the formant transitions for identification of stop and nasal consonants were clarified,<sup>28</sup> the concept of speech-synthesis-by-rule was fully expressed in terms of their accumulated experience.<sup>29</sup>

Later, in connection with the development of the acoustical theory of the speech production process, there have been devised different electrical circuits or their computer simulations that can synthesize speech with satisfactory quality, both in terms of phonemic identifiability and voice naturalness. One type of device, called a "terminal analog," simulates the natural process of speech wave formation in terms of generation of the source signal and the filter function of the articulatory system. The series of synthesizers named OVE, devised by Fant *et al.* at the Royal Institute of Technology in Stockholm, is representative of this type.<sup>30</sup> In the case of OVE II, the time patterns for a number of acoustic variables—the formant frequencies, the voice fundamental frequency, the voice and noise source intensities, the degree of nasal coupling, etc.—were given as curves drawn in conductive ink on plastic film. A later version, OVE III, is combined with an interactive computer, and control is more convenient and precise. There are similar systems at a number of laboratories, e. g. at the Massachusetts Institute of Technology, Bell Telephone Laboratories, and Nippon Electric Company. A slightly different and simpler device called PAT (Parametric Artificial Talker) had been in use at the Joint Speech Research Unit of the British Post Office, and was used by Holmes in his first fully mechanized synthesis-by-rule experiment.<sup>31</sup>

Experiments using these devices have contributed to our understanding of perceptually important physical correlates of vowels and consonants. For obtaining an effective descriptive model of the speech wave structure, particularly in its dynamic aspect, description in the acoustical level is not always adequate or revealing. An effective quantitative model was proposed by Stevens and House<sup>32</sup> for representing the vocal tract area function in terms of three articulatory variables, viz. the place and extent of constriction and the mouth-opening condition. A dynamic analog of the vocal tract (DAVO) was designed by Rosen at the Massachusetts Institute of Technology, simulating the acoustical tube with varying cross-sectional areas by a lumped-constant electrical line. In combination with several time-function generators, the synthesizer was used for some synthesis-listening experiments. A more recent version, e.g. one designed by Matsui at the Electrical Technical Laboratory, Ministry of International Trade and Industry, Tokyo, employs digital control and is being used for synthesis-by-rule experiments.<sup>33</sup>

<sup>28</sup> Cf. Liberman *et al.* (1954).

<sup>29</sup> Cf. Liberman *et al.* (1959), Cooper *et al.* (1962).

<sup>30</sup> Cf. Fant and Mártony (1962), Liljencrants (1967).

<sup>31</sup> Cf. Holmes *et al.* (1964).

<sup>32</sup> Cf. Stevens and House (1955), Stevens and House (1956).

<sup>33</sup> Cf. Matsui (1968), Teranishi and Umeda (1968), Umeda *et al.* (1968).

The area function of the vocal tract, however, is still too free from restrictions to serve directly as a description of articulation, as discussed above. A quantitative model with a more direct functional correspondence to the natural organism has been proposed and tested at the Bell Telephone Laboratories.<sup>34</sup> To describe the vocal-tract geometry in the midsagittal plane of the head, the model employs a circle of constant radius that represents the body of the tongue. This "tongue circle" moves in relation to a larger fixed circular wall, and there are some rules that make the tongue shape adjust itself when it is "pushed" against the wall. In addition, separate control variables also are given for labial protrusion, labial constriction, tongue-tip position, and nasal coupling. The model has been tested in a synthesis-by-rule experiment using an interactive computer which first calculated the vocal-tract area function from the articulatory variables and then derived acoustic variables such as formant frequencies;<sup>35</sup> a terminal-analog hardware synthesizer was driven by the control signals generated by the computer. It was demonstrated that different inherent time constants for different articulatory variables are effective in securing simple and natural algorithms for simulating actual speech phenomena.

In order to establish a successful model of speech production, we would like to have a design that allows a machine to take as input some sort of phonological transcription of a spoken linguistic form, such as a sentence, and produce a typical speech waveform as the output. This logical machine, a transducer, can be considered as a generalized synthesis-by-rule system, where time-varying control variables for a synthesizer are determined by prescribed fixed rules from the sequence of discrete symbols. In experiments attempted so far, the input is given as a string of phonemes or allophones plus some additional marking symbols.

When, our synthesizing strategy is based on segmental phonemics, as is essentially true of practically all synthesis-by-rule experiments at present, there are two major problems involved in the design of the temporal characteristics of the transducer.<sup>36</sup> One is to assign durations for successive time segments, and the other is to determine the character of transitions (and effects of co-articulation) as time functions for the control variables. We need to list all characteristics of individual phonemes as inherent specifications of the sound segments, in addition to establishing the properties of auxiliary symbols such as accent marks and boundary or intonation specifiers and the rules governing their use. Some of the rules will be language specific and some universal.

If this model based on the phonemic input works effectively, we may claim that the level of phonemics is significant at least to some degree of practical approximation in this particular sense. There are unsolved problems, however, in regard to the kinds

---

<sup>34</sup> Cf. Coker and Fujimura (1966).

<sup>35</sup> Cf. Coker (1968).

<sup>36</sup> For some further discussions on the phonemic approach, cf. Fujimura (1967). For the temporal organization and its quantitative models, cf. Öhman (1967) and Lindblom (1968).

of auxiliary symbols to be used in the input transcription. For solving these problems satisfactorily, we will need to develop such concepts as Hattori's prosodeme<sup>37</sup> to a level of perfection where we have a complete framework for specification of the "shape" for any utterable unit without deficiency of symbols.<sup>38</sup> Another approach, that claims a rational over-all treatment of phonological problems, requires a complete specification of the surface structure or its readjusted form of a sentence as the input to phonology (where phonology is taken in the sense of the theory of generative grammar).<sup>39</sup> If the phonemic level proves to be effective in the sense above, it should mean that we have, whether explicitly formulated or not, some stable manner of assigning appropriate secondary phonemic marks in accordance with a reading of the sentence, since otherwise we cannot give the input code to the transducer. Whether this can be or must be done uniquely for any given sentoid, viz. a sentence with its syntactic structure specified, also depends on our theory of grammar. The problem is to determine what are those aspects of the speech phenomena that are to be described by the linguistic form defined by the grammar.

The surface-structure representation as the input may be replaced, if possible, by a syntactic analyzer that converts orthographic transcriptions of sentences into some appropriate phonological transcriptions. A scheme of this kind has been demonstrated by Umeda *et al.*, where the machine generates control variables for a vocal tract analog synthesizer.<sup>40</sup> A lexicon identifies words in the input sentence and converts the orthographic forms to phonemic representations. Since this process involves an automatic syntactic analyzer, which, of course, at present is rudimentary even though very cleverly designed, it must suffer from difficulties that are not our concern here. In consideration of the simplicity of the rules, however, the quality of their generated speech is impressive, suggesting that it is an advantage to use a vocal-tract analog as the synthesizer for such experiments, and that phonemes and allophones are useful as working levels in a pragmatic approximation. When the range of sentence types is expanded, however, and also when quality must exceed a certain threshold, it may well be the case that we will be forced to abandon this approach. This, however, is a purely empirical issue, and we will have to spend some time working with these models before we reach a conclusion. It has to be kept in mind, however, that this conclusion will be more closely related to our performance than to the descriptive framework of competence.<sup>41</sup>

In any case, linguistic information is considered to be given completely in terms of discrete symbols or structural elements, while speech phenomena, on the other hand, are essentially continuous. Some features may reflect the speaker's emotional

<sup>37</sup> Cf. Hattori (1961), Hattori (1965).

<sup>38</sup> Cf. Footnote 39 of Hattori (1965) p. 108.

<sup>39</sup> Cf. Chomsky (1966), Chomsky and Halle (1968).

<sup>40</sup> Umeda *et al.*, paper to be published. For a fragmental description, see Matsui *et al.* (1968).

<sup>41</sup> Cf. Chomsky (1965).

state, for example, and we would not assume that his physiological state generally is discretely specified. How could we expect that a particular utterance of a subject is given one of a finite number of predetermined levels of loudness? Where in the system of synthesis by rule, then, is the continuity introduced?

This crucial problem is not avoided when we deny the independent level of phonemes. As long as we assume a discrete system for the output of the phonological component of grammar, we will need another transducer in order to create continuous speech waves. The speech-synthesis-by-rule system as a logical machine can contain this function in itself; it is essentially a digital-to-analog transducer of a very special kind with various time constants involved. In general, it is of course not necessary to assume the intermediate level of phonemics, nor the level of systematic phonetics.<sup>42</sup>

Existing systems of synthesis by rule, however, have not reached the point of development where the problem of discrete vs. continuous specification can be exemplified. Even though a system generates a continuous function of time as the speech wave, its characterization is still just a reflection of a particular discrete specification. In analogy to the notion of kernel sentences in *Syntactic Structures* by Chomsky,<sup>43</sup> we might explain the situation as follows. A "kernel utterance" is a "standard" form of utterance, given a linguistic structure of the sentence; real utterances are formed by adding "performance features" of various sorts. These additions, or rather deviations from the standard form, could be regarded as optional transformational processes that contain continuous parameters.

The issue here is, then, whether the performance transformations are separated from phonological rules, so that kernel utterances are completely determined by the phonological component as discrete specifications, and a group of the continuous transformations then form varied speech phenomena out of these underlying forms. As far as we can see, however, there is no logical necessity that the continuous rules are not interspersed among the discrete phonological rules, or rather, as it seems more likely, integrated with them. In fact, when we consider the rules used in synthesis experiments, we find that the function of these "continuous transformations" is best performed by incorporating continuous parameters in the equations that determine physical time functions using stored inherent values of phonological units. Also, it seems that some of the continuous rules need to be language specific. A phonetic transcription, indeed, is nothing more than an approximate convention for practical use.

At this point, we should perhaps mention that one of the most directly relevant experiments is the observation of physiological activities, in particular, observation of neural phenomena representing the motor commands. Different phonological units or features may be effected through different muscular means, even when the mechanical or acoustical results merge into one physical dimension. Discreteness at the phonetic

<sup>42</sup> Cf. Chomsky (1966).

<sup>43</sup> Cf. Chomsky (1957).

level, if it exists, must be better defined when we observe the electrical activities of muscles than it is in the acoustical events. Research in electromyography with the speech-performance model in mind is being carried out by some groups, producing interesting albeit inconclusive findings.<sup>44</sup> Since the inherent fluctuation of physiological phenomena makes it essential to utilize significant statistical processing, the use of laboratory computers in combination with the deductive methodology of model construction characterizes modern speech work.

UNIVERSITY OF TOKYO, JAPAN

#### BIBLIOGRAPHY

- C. G. Bell, H. Fujisaki, J. M. Heinz, K. N. Stevens, and A. S. House  
 "Reduction of Speech Spectra by Analysis-by-Synthesis Techniques," *J. Acoust. Soc. Amer.* 33, 1725-1736 (1961).
- J. F. Bosma and J. Lind  
 "Roentgenologic Observations of Motions of the Upper Airway Associated with Establishment of Respiration in the Newborn Infant," *Acta Paediatrica* 49, Suppl. 123 (1960).
- T. Chiba and M. Kajiyama  
*The Vowel, its Nature and Structure*, Tokyo: Tokyo-Kaiseikan, 1941.
- N. Chomsky  
*Syntactic Structures*, The Hague: Mouton and Co., 1957.
- 
- Aspects of the Theory of Syntax*, Cambridge, Mass.: M. I. T. Press, 1965.
- 
- Current Issues in Linguistic Theory*, The Hague: Mouton and Co., 1966.
- 
- and M. Halle  
*The Sound Pattern of English*, New York: Harper and Row, Publishers, 1968.
- C. H. Coker and O. Fujimura  
 "A Model for Specification of the Vocal-Tract Area Function" (abstract), *J. Acoust. Soc. Amer.* 40, 1271 (1966).
- 
- "Speech Synthesis with a Parametric Articulatory Model," *Preprints: Speech Symposium, Kyoto*, A-4-1—A-4-6 (1968).
- F. S. Cooper, A. M. Liberman, and J. M. Borst  
 "The Interconversion of Audible and Visible Patterns as a Basis for Research in the Perception of Speech," *Proceedings of the National Academy of Sciences* 37,

---

<sup>44</sup> Cf. MacNeilage and Sholes (1964), Fromkin and Ladefoged (1966), Fromkin (1966), Hirose *et al.* (1968), Ohala *et al.* (1968).



318-325 (1951).

- 
- \_\_\_\_\_, A. M. Liberman, L. Lisker, and J. H. Gaitenby  
 "Speech Synthesis by Rules," *Proceedings of the Speech Communication Seminar (Stockholm)* II, F2: 1-10 (1962).
- J. D. DeClerk, L. S. Landa, D. L. Phyfe, and S. I. Silverman  
 "Cineradiography of Vocal Tract," 5<sup>e</sup> Cong. Int. de Acoustique (1965) Liege.
- G. Fant  
*Acoustic Theory of Speech Production*, The Hauge: Mouton and Co., 1960.
- 
- \_\_\_\_\_, and J. Mártony  
 "Speech Synthesis," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 2/1962, 18-24.
- 
- \_\_\_\_\_, and B. Sonesson  
 "Speech at High Ambient Air-Pressures," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 2/1964, 9-21.
- 
- \_\_\_\_\_  
 "Analysis and Synthesis of Speech Processes," *Manual of Phonetics* (B. Malmberg, ed., Amsterdam: North-Holland Publishing Co., 1968) 173-277.
- E. Fischer-Jørgensen  
 "Beobachtungen über den Zusammenhang zwischen Stimmhaftigkeit und intra-oralem Luftdruck," *Z. für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 16, 19-36 (1963).
- J. L. Flanagan  
*Speech Analysis, Synthesis and Perception*, Berlin: Springer-Verlag, 1965.
- 
- \_\_\_\_\_, and L. Landgraf  
 "Excitation of Vocal-Tract Synthesizers," *Reports of the 6th International Congress on Acoustics* II, B-179-B-182 (1968).
- V. A. Fromkin and P. Ladefoged  
 "Electromyography in Speech Research," *Phonetica* 15, 219-242 (1966).
- 
- \_\_\_\_\_  
 "Neuro-Muscular Specification of Linguistic Units," *Language and Speech* 9, 170-199 (1966).
- O. Fujimura  
 "Bilabial Stop and Nasal Consonants: A Motion Picture Study and its Acoustical Implications," *J. of Speech and Hearing Research* 4, 233-247 (1961).
- 
- \_\_\_\_\_  
 "Analysis of Nasal Consonants," *J. Acoust. Soc. Amer.* 34, 1865-1875 (1962).
- 
- \_\_\_\_\_, and J. Lindqvist  
 "The Sinewave Response of the Vocal Tract," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 1/1964, 5-10.

O. Fujimura and J. Lindqvist

"An Instrumentation for Spectrum-Matching Experiments," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 2/1964, 6-8.

————— and J. Lindqvist

"Experiments on Vocal Tract Transfer," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 3/1964, 1-7.

————— and J. Lindqvist

"Sweep-Tone Measurements of the Vocal Tract Characteristics," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 1/1965, 1-3.

"Nihongo-no Onsē" (Speech of Japanese), *Collected Papers in Commemoration of the 20th Anniversary* (NHK, Radio and Television Culture Research Institute, ed.), 363-404 (1967).

—————, H. Ishida, and S. Kiritani

"Computer Controlled Dynamic Cineradiography," *Annual Bulletin* (Research Institute of Logopedics and Phoniatrics, University of Tokyo) No. 2, 6-10 (1968).

M. Halle and K. N. Stevens

"Speech Recognition: A Model and a Program for Research," *IRE Transactions of the Professional Group on Information Theory IT-8*, 155-159 (1962).

S. Hattori

*Onseigaku* (Iwanamizensho 131), Tokyo: Iwanamishoten, 1951, 1952.

—————, K. Yamamoto, and O. Fujimura

"Nasalization of Vowels in Relation to Nasals," *J. Acoust. Soc. Amer.* 30, 267-274 (1958).

"Prosodeme, Syllable Structure and Laryngeal Phonemes," *Studies in Descriptive and Applied Linguistics: Bulletin of the Summer Institute in Linguistics* (International Christian University, Tokyo) I, 1-27 (1961).

*Gengo-gaku no hōhō (Methods in Linguistics)*, Tokyo: Iwanamishoten, 1961, 1962.

"The Sound and Meaning of Language," *Foundations of Language* 1, 95-111 (1965).

J. M. Heinz and K. N. Stevens

"Derivation of Area Functions and Acoustic Spectra from Cineradiographic Films of Speech," *Quarterly Progress Report* (Research Laboratory of Electronics, M. I. T.) No. 74, 192-198 (1964).

H. Hirose, S. Kiritani, and S. Shibata

"An Electromyographic Study of Articulatory Movements," *Annual Bulletin*

(Research Institute of Logopedics and Phoniatrics, University of Tokyo) No. 2, 21-27 (1968).

H. Hollien

"Stroboscopic Laminagraphy of the Vocal Folds," *Proc. of the Fifth Int. Cong. of Phonetic Sciences*, 362-364 (1965).

J. N. Holmes, I. G. Mattingly, and J. N. Shearme

"Speech Synthesis by Rule," *Language and Speech* 7, 127-143 (1964).

R. A. Houde

"Perturbations in the Articulatory Motion of the Tongue Body," *Reports of the 6th International Congress on Acoustics II*, B-13-B-16 (1968 a).

---

"A Study of Tongue Body Motion during Selected Speech Sounds," *SCRL Monograph No. 2* (Speech Communications Research Laboratory, Inc., Santa Barbara, Calif.), 1968 b.

R. Jakobson, G. Fant, and M. Halle

*Preliminaries to Speech Analysis: The Distinctive Features and their Correlates*, Cambridge, Mass.: M. I. T. Press, 1963. originally published as *Technical Report No. 13*, Acoustics Laboratory, MIT, 1951.

C. -W. Kim

"Cineradiographic Study of Korean Stops and a Note on 'Aspiration'," *M. I. T. R. L. E. Quarterly Progress Report No. 86*, 259-272 (1967).

V. A. Kozhevnikov and L. A. Chistovich

*Rech: Artikulyatsiya i Vospriyatiye*, Moscow-Leningrad: Nauka (1965).

P. Ladefoged

"Some Physiological Parameters in Speech," *Language and Speech* 6, 109-119 (1963).

---

*Three Areas of Experimental Phonetics*, London: Oxford University Press, 1967.

A. M. Liberman, P. C. Delattre, F. S. Cooper, and L. J. Gerstman

"The Role of Consonant-Vowel Transitions in the Perception of Stop and Nasal Consonants," *Psychological Monographs* 68, 1-13 (1954).

———, F. Ingemann, L. Lisker, P. C. Delattre, and F. S. Cooper

"Minimal Rules for Synthesizing Speech," *J. Acoust. Soc. Amer.* 31, 1490-1499 (1959).

P. Lieberman

*Intonation, Perception, and Language*, Cambridge, Mass.: M. I. T. Press, 1967.

J. Liljencrants

"The OVE III Speech Synthesizer," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 2-3/1967, 76-81.

B. E. F. Lindblom

- "Temporal Organization of Syllable Production," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 3/1968, 1-5.
- L. Lisker and A. S. Abramson  
 "A Cross-Language Study of Voicing in Initial Stops: Acoustical Measurements," *Word* 20, 384-422 (1964).
- P. F. MacNeilage and G. N. Sholes  
 "An Electromyographic Study of the Tongue during Vowel Production," *J. of Speech and Hearing Research* 7, 209-232 (1964).
- A. Malécot and K. Peebles  
 "An Optical Device for Recording Glottal Adduction-Abduction during Normal Speech," *Zs. f. Phonetik, Sprachwiss. u. Kommunikationsf.* 18, 545-550 (1965).
- M. V. Mathews, J. E. Miller, and E. E. David, Jr.  
 "Pitch Synchronous Analysis of Voiced Sounds," *J. Acoust. Soc. Amer.* 33, 179-186 (1961).
- E. Matsui  
 "Computer-Simulated Vocal Organs," *Reports of the 6th International Congress on Acoustics* II, B-151-B-154 (1968).
- , T. Suzuki, N. Umeda, and H. Omura  
 "Synthesis of Fairy Tales Using an Analog Vocal Tract," *Reports of the 6th International Congress on Acoustics* II, B-159-B-162 (1968).
- P. Mermelstein  
 "Determination of the Vocal-Tract Shape from Measured Formant Frequencies," *J. Acoust. Soc. Amer.* 41, 1283-1294 (1967).
- J. J. Ohala  
 "A New Photo-Electric Glottograph," *Working Papers in Phonetics* (University of California, Los Angeles) No. 4, 40-52 (1966).
- , M. Hirano, and W. Vennard  
 "An Electromyographic Study of Laryngeal Activity in Speech and Singing," *Reports of the 6th International Congress on Acoustics* II, B-5-B-8 (1968).
- S. E. G. Öhman  
 "Numerical Model of Coarticulation," *J. Acoust. Soc. Amer.* 41, 310-320 (1967).
- A. P. Paul, A. S. House, and K. N. Stevens  
 "Automatic Reduction of Vowel Spectra: An Analysis-by-Synthesis Method and its Evaluation," *J. Acoust. Soc. Amer.* 36, 303-308 (1964).
- R. K. Potter, G. A. Kopp, and H. G. Kopp  
*Visible Speech*, New York: Dover Publications, Inc., 1966 (originally 1947).
- G. O. Russell  
*The Vowel*, Columbus: Ohio State University Press, 1928.
- C. Satta  
 "Haseikikô oyobi Goonchôsetsu ni tsuite," The 43rd General Meeting of the

Oto-Rhino-Laryngological Society of Japan (1939).

M. Sawashima and H. Hirose

"New Laryngoscopic Technique by use of Fiber Optics," *J. Acoust. Soc. Amer.* 43, 168-169 (1968 a).

———, H. Hirose, S. Kiritani, and O. Fujimura

"Articulatory Movements of the Larynx," *Reports of the 6th International Congress on Acoustics II*, B-1—B-4 (1968 b).

———  
"Observation of the Glottal Movements," *Preprints: Speech Symposium, Kyoto*, C-2-1—C-2-7 (1968 c).

———  
"Movements of the Larynx in Articulation of Japanese Consonants," *Annual Bulletin* (Research Institute of Logopedics and Phoniatrics, University of Tokyo) No. 2, 11-20 (1968 d).

S. Shibata

"A Study of Dynamic Palatography," *Annual Bulletin* (Research Institute of Logopedics and Phoniatrics, University of Tokyo) No. 2, 28-36 (1968).

B. Sonesson

"On the Anatomy and Vibratory Pattern of the Human Vocal Folds," *Acta Oto-Laryngologica*, Suppl. 156 (1960).

A. Sovijärvi

"Die Gehaltenen, Geflüsterten und Gesungenen Vokale und Nasale der Finnischen Sprache," *Annales Academiæ Scientiarum Fennicæ*, B XLIV, Helsinki (1938).

R. H. Stetson

*Motor Phonetics: A Study of Speech Movements in Action*, Amsterdam: North-Holland Publishing Company, 1928, 1951.

K. N. Stevens and A. S. House

"Development of a Quantitative Description of Vowel Articulation," *J. Acoust. Soc. Amer.* 27, 484-493 (1955).

——— and A. S. House

"Studies of Formant Transition Using a Vocal Tract Analog," *J. Acoust. Soc. Amer.* 28, 578-585 (1956).

———  
"Toward a Model for Speech Recognition," *J. Acoust. Soc. Amer.* 32, 47-55 (1960).

——— and S. Öhman

"Cineradiographic Studies of Speech," *Speech Transmission Laboratory Quarterly Progress and Status Report* (Royal Institute of Technology, Stockholm) 2/1963, 9-11.

R. Teranishi and N. Umeda

"Use of Pronouncing Dictionary in Speech Synthesis Experiments," *Reports of the 6th International Congress on Acoustics II*, B-155-B-158 (1968).

H. M. Truby

"Acoustico-Cineradiographic Analysis Considerations," *Acta Radiologica Suppl.* 182, 1-227 (1959).

H. Umeda and N. Umeda

"Acoustical Features of Korean 'Forced' Consonants," *Gengokenkyu* No. 48, 23-33 (1965).

J. van den Berg

"Transmission of the Vocal Cavities," *J. Acoust. Soc. Amer.* 27, 161-168 (1955).

---

"Myoelastic-Aerodynamic Theory of Voice Production," *J. of Speech and Hearing Research* 1, 227-244 (1958).

*Note added in proof:*

After preparation of this article the following monograph was published, which contains cineradiographic data and discussions that are particularly relevant to some of the topics treated here. The points discussed in § 1. 1 are now supported by this additional contribution.

Joseph S. Perkell, *Physiology of Speech Production: Results and Implications of a Quantitative Cineradiographic Study* (Research Monograph No. 53), Cambridge, Mass.: The M.I.T. Press, 1969.

# PRIMÄRE UND SEKUNDÄRE KASUS IM ALTTÜRKISCHEN

A. v. GABAIN

Ein Kasusformans in den Türksprachen ist eine Endung, die unter vokalharmo-  
nischer Angleichung an j e d e s Nomen treten kann, und zwar auch an dessen plura-  
lische Erweiterung.

In den einzelnen Türksprachen sind zwar die Kasus grundsätzlich ziemlich ähnlich,  
doch werden jeweils Reihen von verschiedener Anzahl festgestellt. So werden z.B.  
im Alttürkischen 10 Kasus unterschieden. Im Jakutischen aber anerkannte O. BÖHT-  
LINGK (*Über die Sprache der Jakuten*; St. Petersburg 1851, Neudruck: den Haag 1964,  
S. 260 und 270) 9 Kasus. J. BENZING (Tschuwaschische Forschungen IV, *ZDMG*  
1942, S. 421 ff.) gibt 17 verschiedene Formen 'einfacher und kombinierter Kasus' an;  
tatsächlich liegen aber da mehrere enklitische Postpositionen oder Formansanhäufungen  
vor. J. R. KRUEGER (*Chuvash Manual*, den Haag 1961, S. 114 f.) anerkennt dagegen  
nur 6 Formen als 'Kasus.' Es liegt also auf der Hand, daß auch in den Türksprachen  
unter dem konventionellen Namen 'Kasus' keine homogene Reihe von Faktionen  
zusammengefaßt wird.

In ein und dem selben Dialekt herrscht zuweilen Unsicherheit, ob eine Form als  
korrekt anzuerkennen ist. So führt N. POPPE (*Tatar Manual*, den Haag 1963) einige  
Nebenformen von Kasus auf, die der Tatarin Prof. Dr. S. ÇAGATAY unbekannt sind,  
obwohl sie in folklorischen Texten wirklich belegt sind. Die Existenz der bekannten  
Kasusform-Doubletten im Osttürkischen verstärkt noch die Problematik. Die Formen  
der Pronominalkasus im Atü. wirken auf den ersten Blick besonders verwirrend.  
Aber grade sie sind für die Frage nach dem Ursprung und dem Charakter der Pronomi-  
nalkasus recht lehrreich, und so mögen sie den Ausgang zu den folgenden Untersu-  
chungen bilden.

## DIE KASUSFORMEN DER SUBSTANTIVA IM ATÜ

Nominativ:—

Kasus indefinitus:—

Genitiv: +*η*, in den Handschriften: +*n°η*

Dativ: +*qa* (selten und altertümlich auch +*a*)

Akkusativ: +*°γ*; an Fremdwörtern und in später Zeit auch +*nī*

Lokativ-Ablativ: +*ta*

Ablativ: +*tīn* (nur in den Handschriften)

Instrumental: +*īn*, seltener auch +*°n*

Äquativ: +ča

Direktiv: +ɣaru

Ein Formans +ra, +ru erscheint dagegen nur selten. Hier dürfte eine 'unterbrochene Entwicklung'—wie W. BANG sagen würde—vorliegen, die nicht bis zur Bildung eines 'Kasus' geführt hat.

## DIE KASUSFORMEN DER ATÜ. PRONOMINA UND PRONOMINALIA

Die Kasusformen der Pronomina weichen von diesem einfachen Schema stark ab. Die Personalpronomina haben die Wurzeln \*i, \*bi, \*si 'Er, dieser Er, jener Er'; die Wurzeln der Demonstrativpronomina sind \*u, \*bu, \*šu 'Jener, dieser Jener, jener Jener,' wenn mir einmal solche definierenden Übersetzungen gestattet sein mögen (s. V. KOTWICZ, *Les pronoms dans les langues altaïques*; Krakau 1936, 53 Ss.). Es liegt also eine 'Der-Deixis' vor (Karl BÜHLER, *Sprachtheorie*, 2. Auflage, Stuttgart 1965, S. 102 und 106) und eine objektive Orientierung. Ferner vgl. (a.a.O. S. 108) armenisch *tēr-s* 'der Herr hier' = 'ich der Herr'; *tēr-d* 'der Herr da' = 'du der Herr.'

Der Plural von *bi*+ und *si*+ wurde vermittels des wahrscheinlich dualischen +z gebildet: *biz*, *siz* 'wir, ihr,' von den Demonstrativen aber vermittels des +lar: *olar*, *bolar* 'jene, diese.'

Wie ich in einer früheren Arbeit (Die Pronomina im Alt türkischen; *ZDMG* 1950, Bd. 100, S. 581–91) schon vorgeschlagen habe, wurde der NOMINATIV der Personal- und der Demonstrativpronomina gebildet, indem der Vokal \*i und \*u zu ä und o geöffnet und gelegentlich auch noch ein deiktisches Element +n oder +l angefügt wurde: (Die 3. Person \*ä+n wurde nicht gebildet), *bä+n*~*män* 'ich'; *sä+n* 'du'; *o*~*o+l*, *bo*, *šo* 'jener, dieser, jener dort.' *o* und *šo* sind nur in relativ späten Texten des Atü. belegt.

Diese im Atü. grundsätzliche Veränderung der Stammsilbenvokale, dieser 'Umlaut,' ist auch noch in jüngeren und in neuzeitlichen Dialekten zu konstatieren, dort aber nur als bloße Unsicherheit, s.S. 134–135.

Die Pronomina haben im Atü. keinen KASUS INDEFINITUS, da sie ja grundsätzlich, d.h. ihrer Natur nach etwas Bestimmtes sind.

Der GENITIV wird vom Subjektskasus, dem Nominativ, abgeleitet: *bän+iŋ*~*mäniŋ*; *sän+iŋ* (nur in einer späten Handschrift findet sich einmal *miniŋ*, *siniŋ*); *biz+iŋ*, *siz+iŋ*, und erst in jüngeren Texten findet sich eine Ableitung von der Form, die durch das pronominale *n* erweitert ist: *biz+nin*, *siz+nin*. \**bo+nuŋ*>*monuŋ* und die Ersatzform *an+iŋ*. Die Formen mit +lar bilden den Gen. vermittels der durch das pron. *n* erweiterten Endung: *olar+nŋ*, *bolar+nŋ*.

DATIV: \**bän+kä*>>*baŋa*~*maŋa*; \**sän+kä*>>*saŋa*; \**bun+qa*>>*buŋa*~*muŋa*, sowie eine erweiterte Form \**buŋar*~*muŋar*; \**an+qa*>>*aŋa* neben *aŋar*; *biz+kä* (altertümlich und selten; meist:) \**biz+in+kä*>*biziŋä*; *sizä* (selten, neben dem üblichen:) \**siz+in+kä*>*siziŋä*, *sizlär+kä*, \**sizlär+in+kä*>*sizläriŋä*; *olar+qa*; *bolar+qa*.

Der AKKUSATIV ist von der Wurzel \*bi+ usw. mit dem pronominalen *n* und dem alten, altaischen Akkusativ-Formans +i gebildet: \**bi+n+i*~*mini*; *sini* (nur in späten



Texten einmal *māni* und *sāni*); *bu + n + ī ~ munī*; *a + nī*; *biz + n + i*; *siz + n + i*; *sizlär + n + i*; *olar + n + i*; *bolar + n + i*.

Danach wird es unregelmäßig: Die vielen, verschiedenen Formen des LOKATIV-ABLATIV, ABLATIV, INSTRUMENTAL und ÄQUATIV wie *mintä*, *mindidä*, *mintädä* u. dgl. sind auffallend. Doch lassen sie ein System erkennen, nämlich als Ableitungen 1. vom Pronominalen Stamm, 2. vom Akkusativ und 3. vom Lokativ.

### 1. Ableitungen vom Pronominalen Stamm

*min + tä*; *sin + tä*; *in + čä*; *bizin + tä*; *sizin + tä*; *un + a 'da!'*; *bun + da ~ mun + ta*, *bun + ča ~ mun + ča* (dies als neuer Nominalstamm aufgefaßt:) *munča + da būriü*, (mit Mittelsilbenschwäche:) *munču + la-yu*, *mun + taγ ~ mundaγ ~ mondaγ*, *mun + a 'da!'*, (mit Schwächung des Stammvokals:) *mīna*; *šun + da*; *an + ta ~ an + da*, *an + daγ ~ antaq ~ andaq ~ antäg*, *an + tīn*, *an + īn*, *an + ča*, *anča + γīnča*, (mit Mittelsilbenschwächung:) *anču + la-yu*, (*anča* als neuer Nominalstamm aufgefaßt:) *anča + ta kin*, *anča + ta timin*; (mit Erweiterung des Pronominalstamms durch ein problematisches *+ tīr +*;) *mun + tīr + dīn*, *mun + tīr + an*; *an + tīr + dīn*, *an + dīr + an ~ antran* 'daher, von hier.'

### 2. Ableitung vom Akkusativ

*sini + dä*, *sini + tīn*; *bizni + dä*, *bizni + täg*; *sizni + dä*, *sizni + dīn*; *munī + täg*, *munī + la-yu* (Nominalisierung des Akkusativs!), *anī + täg*.

### 3. Ableitung vom Lokativ

*mintä + dä*; *sintä + dä*; *munta + da*; *anta + da*, *anta + ča*, *anta + da + ta*. Vermittels Mittelsilbenschwäche verderbter Lokativstamm: *mindī + dä*; *sinti + dä*; *muntu + da*

Übrigens gibt es in den Jenisei-Inschriften auch einmal ein pseudonormales *siz + dä*.

Die Kasus der Pluralformen auf *+ lar* sind meist wie die der Substantiva gebildet: *sizlär + dä*, *olar + da* u. dgl.

Anders als der Nom., Gen., Dat. und Akk. wird also der Lokativ-Ablativ, Ablativ, Äquativ und Instrumental von drei verschiedenen Stämmen gebildet, jedenfalls nicht vom Nominativ.

## DAS VERHALTEN DER FRAGEWÖRTER

Die Wurzel *\*qa* bildet einen pronominalen Stamm: *qa + n + ī* ist formal ein Akkusativ, doch hat das Wort erstaunlicher Weise die Bedeutung eines Lokativs 'wo?'. Entsprechende Bildungen sind *qan + ta*, *qan + dīn* und *qan + ča*.

Dagegen dekliniert die erweiterte Form *qanyu > qayu* wie ein Substantiv regelmäßig: *qanyu + da*, *qanyu + γaru*; *qayu + da*, *qayu + tīn*. Auch bei *qa + č* 'wieviel?' ist nichts Besonderes zu vermerken. *qač + an* (attributiv) 'wieviele?' ist eine Genitivbildung; *qač + an* 'wenn, als, wohin?'.  
 Das Fragewort *nä* 'was?' verhält sich wie ein Substantiv: *nä + dä*, *nä + kă*, *nä + täg*, *nä + mă*, *nä + măn*, *\*nä + lă + ök > nălök > nălük*, *nä + čă*, (als neuer Nominalstamm aufgefaßt:) *năčă + tă kin*, *năčă + kătägi*, *\*năčă ök > năčäk > năčük*, *năčük + īn*, *năčük + lă-t-i*, *nä + gü*. Nur die Form *năn + čă* ist in —Analogie zu *anča munča* 'einigermaßen' —mit dem pronominalen *n* gebildet. *nä + η* ist semantisch ein nominalisierter Genitiv

‘Ding.’

Das *kim*, schließlich, wird fast wie ein Substantiv dekliniert: *kim+kä*. Eine silbische Abtrennung von *mini*, *sini*, *munī*, *anī* ergab den Anlaß, einen neuen Akkusativ auf *+nī* zu bilden, und so entstand auch ein *kim+nī* ‘wen?’.

Die Fragewörter stehen zwischen den Substantiven und den Pronomina den ersteren näher. Sie bilden auch keine problematischen Formen wie die letzteren, doch sind immerhin unter dem Einfluß der Pronomina einige wenige pronominale Kasusformen entstanden.

#### REFLEXIVA

Es gibt im Atü. keine Reflexivpronomina. *Öz* und *käntü* werden wie Substantiva behandelt und sie bedeuten auch ‘das Selbst’: *öz+kä*, *öz+üg*, *öz+tä*, *öz+in*, *öz+üm* ‘ich,’ *özüm+tä*.

*käntü+nün*, *+kä*, *+ni*, *+n*; *känt+ün+kä* ‘dir.’

Es gab also ein ausgesprochenes Gefühl für den Charakter des Subjektskasus der Pronomina, für Wortstamm und für Wortwurzel. Das dokumentiert sich auch noch in jüngeren Türkssprachen und -dialekten, in denen sich v o r der Errichtung staatlicher Normierung durchaus noch kein System durchgesetzt hatte. Dafür mögen im Folgenden einige lehrreiche Beispiele gegeben werden.

#### 1. Wechsel des Stammvokals

aosm.: *bänüm*, meist aber *binüm* (Gen.); *sin*, aber *säni* (Akk.)

tschag.: *mäniñ~miniñ*; *sinčä~säniñčä*

karachan.: *mindä~mäniñdä*; *mindin~mäniñdin*

tuwa: *bo*; *monu*; *minda*; *mīnaar* (Dir.); *mīndīg*

tat. (lautgesetzlich *o>u*; *u>o*): *bu*; *monī*; *monda*, *monnan*; *mondīy*; *monīñ*; *moña*

alt.: (*munīy*, aber auch) *mīnīy*, *mīnī*, *mīnda*, *mīnay*; *onīy*, aber auch *anīy* usw.

abak.: *pu*; *mīnīñ*; *mīnī*; *mīnda*; *mīnnan* (aber Dir. *puzar*)

soj.-karag.: *po*, *monu*; aber: *mīnda*; *mīnğa*

#### 2. Ableitung vom Pronominalstamm

aosm. *säni*; *binüm~bänüm*

tschag.: *miniñ~mäniñ*, *mini*, *mindä*, *mindin*; *sinčä*; *mundaγ*; *andaγ*; *ansīz* ‘ohne ihn’ (!); *qanda* (aber *qayda*)

karachan.: *mindä*; *mindin*; *sindä*; *anda*, *andan*: *munda*

otü.: *māniñdin* (~*māndin*, *māndäk*; *sāndä*); *andin*, *andaq*; *munda*, *mundaq*, *munča*; *šundaq*

tuwa: *mīndīg*, *īndīg*, *īnča*

karač.: *muntīg*

tat.: *monī*, *monda*, *monnan*, *mondīy*, *monīñ*, *moña*; *annan*; *tegendä*, *tegenñän*, *tegendī*, (<*täg*); *nīndī* (aber auch *nīgä*, *nīčä*)

abak.: *mīnda*, *mīnnan*

soj.-karag.: *monu*; *mīnda*, *mīnğa*

### 3. Ableitung vom Genitiv als Ersatzstamm

tschag.: *säniḡčä*; *munuḡ dig* (Äquat.); *anıḡ dig* (do)

karachan.: *mäniḡdä*, *mäniḡdin*; *säniḡdä*; *anıḡda*; *munuḡtan*; *kimiḡdä*

otü.: *mäniḡdin*; *säniḡdin*, *säniḡdäk*; *eniḡdin*, *eniḡḡa*; *unuḡḡa*, *unuḡda*, *unuḡdin*; *ṣuniḡga*, *ṣunuḡdin*

koman.: *anıḡnī* (Akk., nur einmal belegt)

karač.: *munuḡtıḡ*

abak.: *anıḡzar* (Dir., < *sıḡar*)

### 4. Ableitung vom Akkusativ

tat.: mine + ke 'das Meinige'

abak.: *mīnī + naḡ*, *anı + naḡ* (Instr.)

### 5. Ableitung vom Dativ

tat.: *mıḡar + ḡa*; *sıḡar + ḡa*; *ṣuḡar + ḡa*; *muḡar + ḡa*; *aḡar + da*, *aḡar + dan*

### 6. Die jak. Pronomia

(BÖHTLINGK, S. 270:) Im Jakutischen wird der bestimmte Akkusativ vom Kasus indefinitus (so BÖHTLINGK) abgeleitet, u.U. von einer erweiterten Form: 1.Sg. *min*, *miyigi + n*; 2.Sg. *än*, *äyigi + n*

1.Pl. *bisigi*, *bisigi + ni*; 2.Pl. *äsigi* ~ *isigi*, *äsigi + ni* ~ *isigi + ni*; 3.Sg. *kini*, *kini + ni*; Demonstr. *bu*, *ma + nī*; *iti*, *iti + ni*; *siti*, *siti + ni*; *öl*, *o + nu*;

*klm*, *klm + i*; *toux*, *tuor + u*

Die ganze Deklination: Dat., Abl., Lok., Instr., Kas. adverb., Kas. Komitat. und Kas. Komparat. wird von diesen Akk. formen abgeleitet.

### ZUSAMMENFASSUNG

Die ältesten Kasus müssen im Türkischen der NOMINATIV und der AKKUSATIV gewesen sein. Ersterer war bei den Substantiven mit dem KAS. IND. identisch.

Der GENITIV wurde—laut Zeugnis des Stammsilbenvokals—vom Subjektskasus abgeleitet, er ist also nicht als echter Kasus anzuerkennen, sondern nur als eine Art Adjektivbildung. K. BÜHLER, S. 237, nennt ihn ja auch nicht mehr als eine attributive oder adnominale Bestimmung des Subjekts; wir würden sagen: des Substantivs. Wenn neuere Türksprachen die obliquen Kasus der Pronomina häufig vom Gen. ableiten, besagt das, daß er nur eine neue Nominalform ist, kein Kasus. Daher ist es möglich, daß das +*ki* nicht nur an Substantiva gefügt werden kann, sondern auch an den Genitiv (allerdings auch an den Lok.).

In einer früheren Arbeit (Über Ortsbezeichnungen im Alttürkischen; *Studia Orientalia* 14,5, Helsinki 1950) suchte ich darzulegen, daß nach den beiden Grundkasus ein Orts- und Zeitkasus auf +*a* gebildet worden ist. Indem er besonders häufig an denominalen Substantiva auf +*q* und +*t* gefügt wurde, entstanden die Formen +*qa* und +*ta*, d.h. der DATIV und der LOKATIV. Nach Ausweis der Pronomina mußte sich der Dat. auf +*qa* gegenüber einem Formans +*ḡar* von ähnlicher Funktion und unbekanntem Ursprung durchsetzen.

Der LOKATIV hatte anfangs zugleich die Funktion eines Ablativs. Er wurde wohl zunächst ähnlich wie eine Postposition empfunden, weil er seiner Entstehung nach—mit dem *+t*—nicht an Pronomina gefügt werden konnte. Daher die Zeugen der Ratlosigkeit: die Stammbildung der Pronomina, nämlich bald wurde der pronominale Stamm, bald der wichtigste oblique Stamm, nämlich der Akkusativ und schließlich sogar der Lokativ selbst als neuer 'Stamm' gewählt.

Ähnlich verhalten sich danach der ABLATIV, INSTRUMENTAL und der ÄQUATIV. BÜHLER faßt sie ebenfalls zu einer Gruppe zusammen, aber auf Grund ihrer Bedeutung, und er nennt sie die 'Kasus der äußeren Determination,' gegenüber den Kasus, bei denen wir kein Suchen nach einem Stamm feststellen, den 'Kasus der inneren Determination.' Im Türkischen glauben wir, diese als die ältesten, also als primär ansehen zu können, die Kasus mit der unregelmäßigen Stammbildung dagegen als sekundär.

HAMBURG, DEUTSCHLAND

#### BIBLIOGRAPHIE

- abakan: O. PRITSAK, PTF  
 alt.: N.A. BASKAKOV, JN SSSR  
 aosm. (alt-osmanisch): M. MANSUROGLU, PTF  
 atü. (alt-türkisch, bzw. uigurisch): A.v. GABAIN, *Alttürkische Grammatik*, Leipzig 1950; *Türkische Turfan-Texte VIII* (brahmi Schrift), Berlin 1954  
 hakassisch: V.G. KARPOV, JN SSSR  
 JN SSSR: *Jazyki Narodov SSSR*; *Tjurkskie jazyki*; Moskau 1966  
 karachanidisch: M. MANSUROGLU, PTF  
 komanisch: A.v. GABAIN, PTF  
 otü. (ost-türkisch): A.v. Le COQ, *Sprichwörter und Lieder*; N.A. BASKAKOV und V.M. NASILOV, *Uygursko-russkij slovar'*; Moskau 1939; G. JARRING, *Materials to the knowledge of Eastern Turki*; Lund 1946–51  
 PTF: *Philologiae Turcicae Fundamenta*; Wiesbaden 1959  
 sojonisch: K.H. MENGES, PTF  
 tatarisch: K. THOMSEN, PTF; M.Z. Zakiev, JN SSSR; gramm. *Abriß in Tatarčarusča süzlek*, red. O.B. Golovkina; Moskau 1966; N. POPPE, *Tatar manual*; den Haag 1963  
 tschagataisch: J. ECKMANN, PTF  
 tuwa: Š.Č. Sat, JN SSSR  
 ZDMG: *Zeitschrift der Deutschen Morgenländischen Gesellschaft*

ERKLÄRUNGEN

- y: nasales y
- °: Bindevokal, d.h. *ɨ/i*, nach rundem Vokal: *u/ü*
- +: Ende eines Nominalstammes,
- : Ende eines Verbalstammes
- \*: erschlossene Form

# **“ANATOLIAN LANGUAGES” AND THE PROBLEM OF INDO-EUROPEAN MIGRATION TO ASIA MINOR**

**THOMAS V. GAMKRELIDZE**

Marked advances made recently in the field of “Anatolian linguistics” (Hittitology) make it possible to reconstruct the picture of the language composition of Asia Minor and to outline the relationships between the languages which were in use in the territory of ancient Anatolia. Although there are still many unclear points in this respect, we are nevertheless in a position for the time being to judge of the place of the Anatolian languages within the Indo-European and to define the time and the ways of migration of tribes speaking Indo-European languages to Asia Minor from their original homeland.

Cuneiform Hittite used in Central Anatolia, along with Palaic (spoken in Northern Anatolia) and Luwian (which was in use in Arzawa countries, in Southern Anatolia) constitute the “Anatolian” group of Indo-European languages referred to also as the “Hittite-Luwian group.” To the same group of Indo-European languages belong also the language of the Hittite hieroglyphic inscriptions and Lycian defined as later dialectal forms of Luwian.

To the Anatolian group refers also Lydian, being, in all probability, a continuation of cuneiform Hittite. It was recently suggested that Carian must be related to the same group of Indo-European languages.

The unification of the above mentioned languages in a special group of Indo-European dialects, opposed to the earlier known language groups (Ind.-Ir., Germ., Celtic, etc.), is based on the occurrence in them of a number of phono-morphologic isoglosses and common innovations which came about as a result of a joint development of these dialects during a long period of time. A comparative analysis of these structural peculiarities of Anatolian languages makes it possible to reconstruct in general features the phono-morphologic structure of common Anatolian, which served as a basis to all the historically attested IE languages of ancient Anatolia.

The Anatolian languages share the following common innovations:

- a) replacement of laryngeals in certain phonetic environments by the velar spirant  $\text{h}$ ;
- b) modification of the inherited complicated IE verbal system to the system with a binary structure of oppositions (present-future~preterit; active~medio-passive; mi-conjugation~ $\text{hi}$ -conjugation: mi-conjugation and  $\text{hi}$ -conjugation in Luwian is

evident from the medial forms of the 3rd person present singular in -ari, -aru and -tari, -taru);

c) loss of the feminine gender resulting in a formation of the nominal opposition by two grammatical genders: genus commune and genus neutrum;

d) replacement of a number of inherited IE lexemes by lexemes of foreign origin; cf., e.g., in Anatolian languages the substitute for the IE word for "four": Hitt. *me(i)u-*, Luw. *ma(u)a-*.

A special place among IE dialects is attributable to the Anatolian languages also on evidence of the reflexes in them of the IE palatal consonants. Judging by the reflexes of palatal \**k̂* in Hittite and related dialects we may reach the conclusion that the Anatolian languages, in which the IE opposition between palatal and velar consonants was neutralized in all positions except the position before u (i.e. \**k̂*, \**k* > Anat. \**k*, but IE \**k̂* + u > Anat. \**śu*: cf. Hitt. *kittari*, Pal. *kītar* "lie"; Gr. *κεῖται*, Skr. *śete*; but Hitt. *šūua* = "swell": Skr. *śvayati*; Hier. Hitt. *aś(u)uas* "horse": Skr. *aśva*=; Hier. Hitt. *šūuanis* "dog": Skr. *śvan*=, Gr. *κύων*, etc.), represent a language group holding an intermediate position between the centum-languages and the satem-languages.

Anatolian languages are opposed to the rest of IE not as a special branch of a common ancestor, styled by E. Sturtevant "Proto-Indo-Hittite," but as a special group of closely related dialects deriving, along with the other language groups, from Proto-Indo-European.

The evidence set forth by E. Sturtevant in support of the Indo-Hittite hypothesis cannot serve as a basis for opposing the Anatolian languages to the rest of Indo-European.

Within the Anatolian group of languages especially close relationship is evidenced by Palaic and Luwian which form a subgroup in the system of the Hittite-Luwian language group. Particular interest is due in this respect to the common Luwian-Palaic innovations setting off these languages from cuneiform Hittite: cf. the Luw.-Pal. pronominal form of Acc. *apan* as against the archaic Hitt. *apūn*.<sup>1</sup>

In Luwian, as well as in Palaic, as a result of the paradigmatic levelling of forms by analogy there are no traces of morphophonemic vowel alternations, this being a characteristic feature of cuneiform Hittite, bringing it close to other IE dialects which preserved this archaic structural feature: cf. Luw.-Pal. *at-* || *ad-* "eat" and Hitt. *et-*: *at-*; Pal. *aḫu-* "drink" and Hitt. *eku-*: *aku-*; Luw.-Pal. *aš-* "be" and Hitt. *eš-*: *aš-*, etc. (apophony of the type *e-* : *ø*, cf. *kuen-*: *kun-*, Skr. *hanti*: *ghnanti*; cf. also the alternating

<sup>1</sup> In Luwian, however, unlike Palaic, special nominal forms in -*nt-* suffix developed (nom. -*nzi*, acc. -*nza*) (this being different also from Hier. Hittite, in which the plural of nouns is formed by the suffix -*ai'a*), and Gen. sg. in -*aš* (Hitt. -*aš*) was replaced by special adjectival forms with the possessive suffix -*ašši*, which may be compared to Tokh. A -*ši*, Tokh. B -*šše* used with the same function. It is, however, possible to view the use of adjectival forms in -*ašši* as a syntactic archaism in Luwian reflecting the stage of language development when a special genitive case was still absent in the system of IE declension.

forms in the nominal system of Hittite: aiš: iššaš, uttar: uttanaš, ḥapeššar: ḥapešnaš (cf. Luw. ḥappešša), ḡadar: uetenaš (cf. Luw. ḡid ʿa<sup>1</sup>).

However, along with the preservation of such an archaic feature in cuneiform Hittite it developed, in contradistinction to other Anatolian languages, a number of peculiarities which changed its original structural appearance.

Out of a number of special Hittite innovations we must mention in the first place the consonant shift in Hittite as a result of which a three-plosive system of Indo-European was reduced to a two-plosive system with the pairs of obstruents differentiated by aspiration; the correlation by voice changed in Hittite to the correlation by aspiration which transformed the original IE model of paradigmatic oppositions of the consonant phonemes.

The opposition of obstruents by voice in pre-Hittite (or, in any case, in Proto-Anatolian) is immediately apparent from different representation in Hittite of IE \*d and \*t before the front vowels, \*t resulting in such a position in z [ts] in contradistinction to Luwian and Palaic: cf. Hitt. -zi, -nzi and Luw.-Pal. -ti, -nti from IE \*-ti, \*-nti; Hitt. zi-k "thou" (and Pal. ti), while IE \*d yields s: cf. Hitt. šiuatt- "day," \*Šiḡaz and Luw. tiuat-, Pal. tijat- "Sun-god."

Along with the Indo-European languages the archives from Boghazköy testify to the existence in ancient Anatolia of other languages too, which belong neither to the Indo-European, nor to the Semitic group: the Hurrian language, known to us also from other ancient oriental sources, and the so-called Hattic ("Proto-Hittite") language.

Short passages in Hattic occur in ritual texts and are followed, as a rule, by Hittite translations. This language was used in the cult of certain deities of the Hittite pantheon, this being an indication of a high antiquity of the language in question. For the beginning of the second millennium B.C. Hattic was apparently no longer in common use, having been ousted by the IE languages of Asia Minor.

With the discovery of Hattic it has become clear that the aboriginal population of the central and north-eastern regions of Asia Minor spoke a language basically different from Indo-European and characterized by the prevalently prefixal structure of inflection and derivation.

The establishment of this fact raises the question as to the appearance of the tribes who introduced there Indo-European dialects.

The presence of the Hittite-Luwians (i.e. the tribes speaking the languages of the Hittite-Luwian group) in Asia Minor in the very beginning of the second millennium B.C. is documentarily established. Hence we have to assign the appearance of Indo-Europeans in Asia Minor to a period not later than the end of the third millennium B.C. This suits admirably the latest linguistic data concerning the separation of Hittite-Luwian from Proto-Indo-European.

Certain innovations shared by Hittite-Luwian and Ind.-Ir. make it possible to judge of the connections and contacts between these languages during a period after their separation from the common IE as independent linguistic units. The area for



such contacts could be the territory north of the Black Sea and the Caucasus, all this pointing to the arrival of Hittite-Luwians in Asia Minor along the Caucasian route (cf. moreover the absence of any connections of Hittite-Luwian languages with Greek). To the same direction point also special structural innovations, shared by Hittite-Luwian and Armenian language (partial loss of grammatical gender, loss of degrees of comparison of adjectives), which were caused obviously by the influence of the common Caucasian linguistic substratum, at different times and independently of each other.

On the other hand, the Caucasian, in particular, Kartvelian languages reveal a morphonemic structure (apophonic alternations of vowels) very close to that of IE languages. According to the morphemic structure and the syntagmatic relationships of morphemes Kartvelian and Indo-European may be characterized as isomorphic systems and unified in a common typological class. All this points to close contacts between the Caucasian (Kartvelian) and Indo-European languages which furnish further evidence for the thesis of the Caucasian route of Indo-European migrations to Asia Minor.

This thesis fully corroborates the view advanced earlier by F. Sommer about the Caucasian route of migration of Indo-Europeans to Asia Minor supported by the arguments of cultural-historical character (Hittite views of the sun rising out of the sea; the privileged position of certain Hittite cities situated in the east, etc.). In favour of the Caucasian route of Indo-European migration testify also special links between the objects of material culture of Asia Minor and the Caucasus.

In view of the above mentioned evidence it seems to be improbable that tribes speaking Hittite-Luwian languages appeared in Asia Minor at different times and by different ways. Thus, e.g., it is difficult to accept the thesis of an earlier arrival of the Luwians in Asia Minor through the Balkans, as different from the Hittites (Nesites) who must have entered their historical homes via Caucasus. This assumption is based on the view that the differentiation of Proto-Hittite-Luwian must have occurred beyond the borders of Anatolia long before the appearance of Indo-Europeans in Asia Minor. The facts of an especial phono-morphological closeness of Anatolian languages, however, can only be accounted for on the assumption of collective migrations of tribes speaking common Hittite-Luwian language, with its further differentiation, already within the Anatolian territory, in different dialects which yielded later on historically attested linguistic units.

An analysis of the monuments of material culture obtained in course of the archaeological investigation of Central Anatolia (mainly specimens of pottery, architectural monuments and partly of the plastic art) shows no break in the development of the local culture during the whole of the second millennium B.C. The culture of the second millennium, for its part, continues in uninterrupted sequence the cultural traditions of the third millennium B.C. worked out by the aboriginal population of Asia Minor.

But approximately in the same region a large quantity of pottery came to light which

shows a striking difference in the technique of making and painting from the monochrome type, characteristic of the Hittite culture and reflecting local traditions of great antiquity. The appearance of this new, polychrome type of pottery dating to the end of the third millennium B.C. was usually put in connection with the migration of Indo-Europeans who must have introduced into Asia Minor a new culture alien to local traditions.

However this painted, the so-called "Cappadocian" pottery whose sphere of distribution is confined mainly to the south-eastern regions of the Anatolian plateau existed parallel to the monochrome Hittite pottery which developed directly from the type characteristic of the ancient local culture. Consequently, the Cappadocian ware does not eliminate the picture of an uninterrupted line of development of the Hittite culture, since we have to do in this case with a parallel development of two different styles, but not with a replacement of one style by another, the more so as the points of discovery of Cappadocian pottery lie beyond the sphere of distribution of the Hittite culture.

The picture of an uninterrupted development of the Hittite culture sharply contrasts with the picture of heterogeneous language composition of Asia Minor; on archaeological evidence alone it would be impossible to establish beyond doubt the fact of the arrival in Anatolia of a new ethnic element who introduced there Indo-European languages. We must therefore assume that the penetration of Indo-Europeans into Asia Minor did not have the character of a sudden invasion which swept away on its way age-old local cultural and economic traditions; it must have come about apparently as a long process of infiltration of the new ethnic element into the mass of the aboriginal population of the country. The intermingling and amalgamation of IE tribes with the local Hattic population, by far superior to the newcomers in the level of cultural development, led to the formation of the Hittite people who created in the second millennium B.C. the mighty Hittite empire.

Full assimilation of Indo-European immigrants with the local Hattic population must have been completed about the beginning of the second millennium B.C. This assumption would well account for the fact that in the cuneiform documents of the Boghazköy archives the main mass of population of the Hittite Kingdom appears already as a formed nationality called "people of the land of Hatti." Hence it seems unjustified to single out in the Hittite society a special "ruling group" of Indo-Europeans, opposing them to the rest of the population of the Hittite Kingdom. In the cuneiform texts from the Boghazköy archives so far known to us there are not the slightest indications of the existence among the Hittites of any racial grouping, let alone of a special "ruling aristocracy," ethnically different from the rest of the Hittite society. The same is evidenced by the available onomastic material. This is especially clear from the typically Hattic names of the ancient Hittite kings—of the founder of the Hittite dynasty Labarnas, his successors Hattusilis, Mursilis, Telpinus, etc. All this points to the fact that already towards the beginning of the second millennium B.C. ethnic differences were no longer felt in the Hittite people.

In the light of the above mentioned data it becomes quite natural that in the cuneiform texts, most ancient of which date back to the first half of the second millennium B.C., there are no direct indications of the migrations of Indo-Europeans to Asia Minor, their clashes with the local population and the subjugation of the country. One of the most ancient Hittite texts describes the campaigns of Anittas, son of Pithanas, the king of Kussar (all bearing typical for Asia Minor non-Indo-European names) against cities of Nessas, Ḫatussas, etc. This is to be considered, however, not as a conflict between two different ethnic groupings (Indo-European and Hattic) but as a struggle of diverse political units for a hegemony in Asia Minor.

The penetration of Indo-European tribes into ancient Anatolia caused considerable changes in the picture of language composition of Asia Minor; it brought about the spreading of Indo-European languages in Anatolia and a gradual ousting of non-Indo-European languages of the aboriginal population.

The process of Indo-European penetration into Asia Minor is paralleled by an analogous process in ancient Mesopotamia. Sumerian, the language of the ancient population of the country, was almost completely ousted towards the beginning of the second millennium B.C. by Akkadian, the language of the Semitic immigrants. But as a dead language it was kept in use, like Hattic, in the cult as a holy language of the Babylonian religion.

The settlement of Semitic tribes in ancient Mesopotamia, however, came about, according to the latest theories, not through its invasion by the Semites and the subjugation of the Sumerians, but in process of filtering in of the new ethnic element into the mass of the ancient population of Mesopotamia.

# INHALTLICH ORIENTIERTE SPRACH- WISSENSCHAFT IM DIENSTE DER VÖLKERVERSTÄNDIGUNG

HELMUT GIPPER

Bei der Gründung der Societas Linguistica Europaea im Februar 1966 in Kiel schien es mir geboten zu fragen, ob die Zielsetzungen, die die Gründung der Linguistic Society of America im Dezember 1924 bestimmt hatten, noch die unsrigen sein können.<sup>1</sup> Ich schilderte kurz, wie L. Bloomfield die Linguistik zu einer selbständigen Disziplin zu machen suchte, indem er sie methodisch und terminologisch auf den Boden einer positivistisch-behavioristischen Wissenschaftsauffassung stellte. Seine wissenschaftstheoretisch wohlbegründete Abkehr von mentalistischen Sehweisen führte zur Ausbildung von Methoden der Sprachbeschreibung, die man als strukturalistisch zu bezeichnen pflegt. Sie sind gekennzeichnet durch eine möglichst genaue Systemerprobung anhand sprachlicher Äußerungen und Texte, wobei die lautlich-formale Seite lange Zeit im Vordergrund stand. Die als wissenschaftlich nicht exakt erfaßbar geltende Bedeutung wurde hingegen aus methodischen Gründen zunächst hintangestellt. Dieser Ansatz kann in seiner Grundhaltung als technisch-szientifisch bezeichnet werden. Er hat die amerikanische Linguistik bis in die Gegenwart hinein bestimmt und auch auf die Linguistik der anderen Länder eingewirkt.

Gegenüber dieser Auffassung wies ich auf die Notwendigkeit hin, den einseitig technisch-szientifischen Ansatz durch einen anderen komplementär zu ergänzen, der gerade die vernachlässigte inhaltliche Seite der Sprache berücksichtigt. Diesen Ansatz, der in Deutschland durch die Namen J.G. Herder, W.v. Humboldt und L. Weisgerber gekennzeichnet ist und in den Bestrebungen E. Sapirs und B.L. Whorfs Parallelen findet, kann man einen transzendental-hermeneutischen nennen. Hier geht es darum, die Eigenart der in einer Sprache ausgebildeten Begriffsordnungen und Aussageweisen zu ermitteln und an die Bedingungen der Möglichkeit des Sprechens und Verstehens heranzukommen. Dazu sind ganz andere Methoden erforderlich—die sogenannte Feldbetrachtung ist eine davon—, und man wird zu Überlegungen gezwungen, die

---

<sup>1</sup> Vgl. H. Gipper: "Zielsetzungen der Sprachwissenschaft 1924 und heute. Versuch einer Standortbestimmung aus Anlaß der Gründung der Societas Linguistica Europaea." *Folia Linguistica* 1, 1967, 111–118, und ders.: "Strukturalismus und Sprachinhaltsforschung," in: *Satz und Wort im heutigen Deutsch, Jahrbuch des Instituts für deutsche Sprache* 1955/56, Düsseldorf: Schwann 1967, 392–415.

über den Bereich der "reinen" Sprachwissenschaft hinausführen in die Nachbardisziplinen, angefangen von der Anthropologie bis zur Philosophie.

Ich forderte eine komplementäre Ergänzung beider Strömungen: Die technisch-scientifische Seite führt zweifellos auf dem Gebiet formaler Beschreibungsmethoden, von ihr kann die transzendental-hermeneutische Seite in dieser Hinsicht viel lernen. Aber der Strukturalismus und auch die neuen Strömungen der generativen Grammatik, die trotz mancher Auflockerungen immer noch zu einseitig pragmatisch-behavioristisch-positivistisch orientiert sind, können von der transzendental-hermeneutischen Seite lernen, daß Sprache mehr ist als ein manipulierbares Wissenschaftsobjekt. Sie ist vielmehr ein Sinnträger, der auf den Beobachter, welcher selbst sprachbedingt ist, ständig zurückwirkt. Deshalb wird sie formal-deskriptiv kaum erschöpfend zu erfassen sein. Die Stärke der "mentalistischen" Seite liegt darin, daß sie über die breitere erkenntnistheoretische Grundlage verfügt und erkennt, daß Sprache nur unter Berücksichtigung des dialektischen Wechselbezuges zwischen Mensch-Sprachgemeinschaft-Sprache-Welt ausreichend zu bestimmen ist. Zudem liegt auch ihr der Strukturgedanke zugrunde. Schon W.v. Humboldts Organismusgedanke weist darauf hin, daß die Sprache ein gegliedertes, strukturhaftes Ganzes ist, in dem ein Element das andere bedingt und von ihm bedingt ist, ein Ganzes, das mehr ist als die Summe seiner Teile. F. de Saussures Systembegriff präzisiert diese Vorstellung, und J. Triers und L. Weisgerbers Feldbetrachtung kann man geradezu als semantischen Strukturalismus bezeichnen, der lediglich noch der Formalisierung bedarf.<sup>2</sup>

Man darf in diesem Zusammenhang nicht übersehen, daß auch die Wurzeln des amerikanischen Strukturalismus in Europa liegen, wie B. Collinder in seinem Aufsatz "Les origines du structuralisme" gezeigt hat.<sup>3</sup> Sieht man von frühen Vorläufern ab, unter denen der indische Sanskrit-Grammatiker Pāṇini hervorzuheben wäre, so sind hier vor allem die Namen A. Noreen, F. de Saussure, J. Baudouin de Courtenay und seine Schule von Kazan zu nennen, aus denen N.S. Trubetzkoy und R. Jakobson hervorgegangen sind. Daß auch L. Bloomfield in Deutschland studiert hat, sei nur am Rande vermerkt. Aber der europäische Strukturalismus, der in Prag ein Zentrum besaß und in Kopenhagen durch das Wirken L. Brøndals und L. Hjelmslevs eigene Formen entwickelte, hatte doch nicht die Durchschlagskraft, die der amerikanische Strukturalismus besitzt. Ihn zeichnen besonders die formalen Beschreibungsmethoden aus. Hier liegen seine Stärken und auch seine Schwächen.

Obwohl nun heute bereits Anzeichen darauf hindeuten, daß beide großen Strömungen sich einander nähern müssen, wenn sie weiterkommen wollen, gibt es auf beiden Seiten Unbelehrbare, die diese Notwendigkeit nicht sehen. Die Bereitschaft, vom anderen zu lernen, scheint auf der inhaltlich orientierten Seite größer zu sein als auf der Gegenseite, obwohl den "Neo-Humboldtianern" Nichtbeachtung ausländischer

<sup>2</sup> Vgl. hierzu H. Gipper / H. Schwarz: *Bibliographisches Handbuch zur Sprachinhaltsforschung*. Köln/Opladen: Westdeutscher Verlag, Teil I, Bd. I, 1966, Einleitung, XIII—LXXXIV.

<sup>3</sup> Stockholm: Almqvist & Wiksell 1962, 15 S. (*Acta Soc. Ling. Upsaliensis, Nova Series* 1:1).

Forschungsergebnisse vorgeworfen worden ist. Jedenfalls habe ich diesen Eindruck bei meinem Besuch in den USA im Sommer 1967 gewinnen müssen. Besonders enttäuschend war für mich der Versuch einer Fühlungnahme mit dem MIT.<sup>4</sup> Immer noch mangelt es an dem rechten Verständnis für eine Sprachauffassung, die in der Sprache mehr sieht als ein Mittel der Kommunikation und der Verständigung, als ein Zeichensystem unter anderen. Grobe Mißverständnisse hemmen immer noch jede Begegnung. Vor allem besteht noch Unklarheit darüber, wo die Grenzlinie zwischen Sprachlichem und Außersprachlichem liegt und ob es Aufgabe der Sprachwissenschaft sein darf, über diese Grenze hinauszublicken.

Shirô Hattori, der große japanische Sprachforscher, den ich in Bonn kennenzulernen die Ehre hatte, ist einer der wenigen nichteuropäischen Gelehrten, der immer wieder für eine stärkere Berücksichtigung der Bedeutungsfragen in der Sprachwissenschaft eingetreten ist. Diese Tatsache ermutigt mich, ihm als bescheidene Geburtstagsgabe einige Gedanken vorzutragen, die zu einer weiteren Klärung der angedeuteten Fragen und damit zu einer Verständigung zwischen den noch getrennt arbeitenden linguistischen Richtungen beitragen sollen. Ich möchte dabei auch den immer wieder angefochtenen Begriff des "sprachlichen Weltbildes" bzw. der "sprachlichen Weltansicht" (view or picture of the world) gegen Mißverständnisse in Schutz nehmen sowie die heute aktuelle Behauptung, das Universell-Gemeinsame aller Sprachen verdiene entschieden den Vorrang vor dem Einzelsprachlich-Besonderen, einer Prüfung unterziehen. Schließlich kommt es mir darauf an zu zeigen, daß eine inhaltlich orientierte Sprachwissenschaft wichtige Aufschlüsse über das Verhältnis von Sprache, Denken und Kultur zu liefern vermag und deshalb in den Dienst der Völkerverständigung gestellt werden kann.

Jede natürliche Sprache dient einer Sprachgemeinschaft als Medium der Welterfassung. Jeder Mensch, der eine Sprache besitzt und spricht, spricht von und über etwas: über das, was ihn bewegt, was ihm mitteilenswert erscheint, was er denkt und zu tun beabsichtigt. Die jeweilige Sprache stellt ihm dazu ein Vokabular zur Verfügung, in dem er in der Regel alle Ausdrücke und Begriffe findet, die er braucht, und sie liefert ihm die syntaktischen Muster, die Satzbaupläne und vorgeprägten Redewendungen, die er zur Gestaltung seiner Rede benötigt. Das sind triviale Feststellungen, denen die Sprachwissenschaft Rechnung zu tragen hat. Mir kommt es auf den Hinweis an, daß jede Sprache und jeder Sprechakt auf die Erfassung außersprachlicher Wirklichkeit hinzielt (zu welcher der Mensch selbst auch gehört), oder auch eine eigene Welt im künstlerischen Schöpfungsakt entstehen läßt. Jedes Wort und jeder Satz dient generell dazu, außersprachliche Lebenssituationen, Tatsachen, Sachverhalte, aber auch Gefühle und Empfindungen zu erfassen, wobei es in diesem Zusammenhang von untergeordneter Bedeutung ist, daß manche Sprachmittel speziell dem innersprachlichen Aufbau der Rede dienen, also in den Satz hineinweisen (Synkategoremata).

Der Bezug zur außersprachlichen Wirklichkeit ist stets und überall da: ihretwegen

---

<sup>4</sup> Massachusetts Institute of Technology, Department of Linguistics.

gibt es überhaupt menschliche Sprache. Es erscheint deshalb abwegig, bei der wissenschaftlichen Erforschung natürlicher Sprachen diese außersprachliche Wirklichkeit ausklammern zu wollen. Andererseits muß betont werden, daß die sprachlichen Inhalte, d.h. alles, was die Angelsachsen unter *meaning* verstehen, eine geistige Welt eigener Ordnung darstellt. Es kommt nun darauf an, klar zu erkennen, in welchem Verhältnis die sprachliche "Bedeutung" zur außersprachlichen Wirklichkeit steht. Viel Verwirrung hat hier G. Frege und L. Wittgensteins Versuch gestiftet, die Bedeutung dem außersprachlichen Gegenstand gleichzusetzen, und zwar deshalb, weil dadurch die Sicht auf die Eigenart der sprachsystembedingten Inhalte verstellt wird.<sup>5</sup> Die "Bedeutung" gehört aber wesentlich zur Sprache. Ihre Besonderheit besteht darin, daß sie den Gegenstand nicht einfach gedanklich spiegelt oder abfotografiert, sondern daß sie eine einzelsprachlich bedingte, auswählende und wertende Sicht von ihm bietet, ja häufig sogar einen geistigen Gegenstand schafft, zu dem in der Außenwelt kein Korrelat anzutreffen ist. Die Eigenart dieser sprachlichen Inhalte zu erkennen und zu bestimmen, gehört zur wichtigsten und schwersten Aufgabe der Sprachwissenschaft. An dieser Stelle ist nun vor einem—scheinbar unausrottbaren—Mißverständnis zu warnen: Die Arbeiten L. Weisgerbers, stärker aber noch die B.L. Whorfs haben bei manchen Kritikern den Eindruck erweckt, als würden hier Natur und Welt mehr oder minder als ein Chaos aufgefaßt, in dem die Sprachen erst eine gedankliche Ordnung schaffen. Ja, es sieht so aus, als erzeugten die Sprachen die Wirklichkeit erst. Weisgerber hat dies jedoch nie behauptet, wohl aber hat er die gliedernde, kategorienstiftende Kraft der Sprache bei der Erfassung der außersprachlichen Wirklichkeit betont. Bei Whorf findet man schon eher zugespitzte Stellen, an denen z.B. davon gesprochen wird, daß die Sprache im kaleidoskopartigen, chaotischen Fluß des Naturgeschehens Ordnung schafft.<sup>6</sup> Eine solch einseitig idealistische Position, die der Sprache eine eigenschöpferische Macht zuspricht, wäre in der Tat abzulehnen, weil ihr das nicht zukommt.

Unsere Position kann hier nur die folgende sein: Die außersprachliche Wirklichkeit ist kein Chaos, sie enthält selbst eine Ordnung mit mannigfaltigen Strukturen. Wäre dies nicht der Fall, stellten Makrokosmos und Mikrokosmos nicht Ordnungen vielschichtiger Art dar, wäre nicht das Leben selbst eine Manifestation von Ordnungen höchster Komplikationsstufe, dann könnte es vermutlich weder Geist noch Erkennen geben. Die Naturwissenschaften stoßen überall auf Gesetzmäßigkeiten, sie brauchen nicht erst Ordnungen zu erfinden, sondern sie entdecken solche vielmehr auf Schritt und Tritt. Daß der Mensch so etwas vermag, das bleibt freilich ein Geheimnis, dem höchstens die metaphysische Annahme einer geheimen Entsprechung von Individuum und Welt gerecht zu werden vermag. Freilich: Ordnungen erkennen heißt, sie aus menschlicher Sicht und Perspektive sehen. Dies bedeutet zugleich: unsere Erkenntnis

<sup>5</sup> Vgl. H. Gipper: *Bausteine zur Sprachinhaltsforschung*. Düsseldorf: Schwann 1969, 1. Kap.

<sup>6</sup> Vgl. z. B. B. L. Whorf: "Science and linguistics." In: *Language, thought, and reality, Selected writings*, ed. J. B. Carroll, New York: M. I. T. 1956, 213.

ist standort- und kulturgebunden, also zugleich sprachgebunden. Hier wird nun der positivistisch eingestellte Leser wieder jene Überschätzung der Sprache befürchten, gegen die er sich wehrt. Sprachgebundenheit ist daher recht zu verstehen: Es wird damit nicht mehr und nicht weniger gesagt, als daß alles Erfahren und Erleben sprachlich vermittelt werden muß, um in gedankliche Erkenntnis übergeführt werden zu können. Struktur und Dichte des verfügbaren sprachlichen Begriffsnetzes bestimmen mit, was geistig erfaßt und somit erkannt werden kann. Die Geschichte der Wissenschaften liefert dafür den unumstößlichen Beweis: die magisch-mythischen Vorstellungen alter Kulturvölker in allen Weltgegenden fanden den ihnen gemäßen Ausdruck in Sprachformen, die diesem geistigen Niveau entsprachen. Die allmähliche Entwicklung zu reiferen Erkenntnisformen, in denen logische und rationale Gesichtspunkte bestimmend wurden, geht parallel mit einer allmählichen Entmetaphorisierung und Entmythologisierung der sprachlichen Begriffsnetze und einer Straffung der syntaktischen Strukturen. Man könnte zwar annehmen, der Erkenntnisdrang des Menschen sei dabei das einzige und eigentliche Agens und Movens, dem sich die Sprachen fügen und anpassen, aber es muß doch auch gesehen werden, daß zugleich der jeweils erreichte Sprachstand Voraussetzung und Vorbedingung für den Stand der Erkenntnis und für den weiteren geistigen Fortschritt ist.

Zwar ist es immer der Geist, der sich den Körper, d.h. die Sprache schafft, doch ist zu bedenken, daß Sprache bereits eine Verbindung von Körper und Geist darstellt. Diese aber entfaltet ihre eigene Dynamik und wirkt mächtig auf ihren Schöpfer zurück. Nur wenn man das Verhältnis zwischen Geist und Sprache als ein energetisches, als ein dialektisches Miteinander und Füreinander begreift, wo eines das andere fordert und zugleich aber vom anderen rückwirkend bedingt ist, wird man diesem menschlichen Grundphänomen gerecht werden.

Die Sprachgemeinschaften haben in jahrtausendelanger Wechselwirkung mit ihrer Lebenspraxis jene Gedankenmedien geschaffen, die ihnen als selbstverständliche Vermittler des Erfahrbaren erscheinen. Es ist klar, daß jede Kultur, jeder geographische und klimatische Raum, dabei Eigenheiten hat wirksam werden lassen, welche die zugehörigen Sprachen auszeichnen und sie von allen andren unterscheiden. Die Verschiedenheit der Begriffsnetze und der Aussagemöglichkeiten, die so entstanden sind, rechtfertigt die Rede von den sprachlichen Weltansichten im Sinne W.v. Humboldts. Es handelt sich hier, wie ich auch auf dem 8. Deutschen Philosophenkongress 1966 in Heidelberg betont habe, um eine Tatsache, die von grundlegender anthropologischer Bedeutsamkeit ist.<sup>7</sup> Jeder Mensch findet mit dem Eintritt in eine Sprachgemeinschaft eine solche Weltansicht vor, sie stellt für ihn ein Apriori dar, das bereits wirksam ist, bevor eigenes individuelles Denken erwacht und zur Ausbildung persönlicher Weltbilder und Weltanschauungen führen kann. Die damit gegebene Sprach-

<sup>7</sup> H. Gipper: "Der Beitrag der inhaltlich orientierten Sprachwissenschaft zur Kritik der historischen Vernunft." *Das Problem der Sprache*, 8. Deutscher Kongreß für Philosophie, Heidelberg 1966, Hrsg. H.-G. Gadamer, München: Fink Verlag 1967, 407-425.



gebundenheit darf nun aber nicht mit sklavischem Ausgeliefertsein verwechselt werden. Und damit sind wir bei einem weiteren Mißverständnis: Denken erfordert zwar ein Sich-Bewegen in vorgegebenen Bahnen einer bestimmten oder mehrerer verfügbarer Sprachen, aber es verlangt auch, über die Sprachen hinauszutreten, gegen sie anzukämpfen und neue Positionen zu erringen. Freilich müssen auch diese sogleich wieder sprachlich fixiert, d.h. eingegrenzt werden, wenn sie über den Augenblick hinaus Dauer behalten und zu bleibender Erkenntnis werden sollen.

Die Gesamtentwicklung der Wissenschaften, der ständige Austausch der Erkenntnisse und Einsichten läßt allerdings den Eindruck entstehen, als trete der Einfluß der Einzelsprachen gegenüber den gemeinsamen Erkenntnisgegenständen völlig zurück. Dieser Schein trügt jedoch. Zwar kommt es in wachsendem Maße zu einem weltweiten sprachlich-begrifflichen Austausch, der zur Mitteilbarkeit und Verifizierbarkeit wissenschaftlicher Erkenntnisse über alle Sprachgrenzen hinaus führt, aber jede Erkenntnis muß doch wieder über den vorgegebenen Verstehenshorizont einer Einzelsprache vermittelt werden, damit sie geistiges Eigentum eines Individuums werden kann. Und bei diesem notwendigen Rückbezug auf die einzelsprachliche Verstehens Ebene erhält jede Erkenntnis wieder ihre bestimmte kulturbedingte Färbung und Tönung. In den Naturwissenschaften mag das mächtige Korrektiv nachvollziehbarer Experimente vor einzelsprachlichen Verzerrungen bewahren. Wesentlich stärker ist dieser sprachliche Einschlag jedoch in anderen Lebensbereichen, in denen die sozialen und kulturellen Faktoren besonders wirksam sind (etwa in Religion, Recht usw.).

An dieser Stelle muß nun die absichtlich zurückgestellte Frage beantwortet werden, wie es denn mit den allgemein-menschlichen geistigen Gemeinsamkeiten und mit den sogenannten Universalien bestellt ist, die in allen Sprachen vorliegen sollen. Zunächst die Frage: Gibt es tatsächlich solche sprachlichen Universalien, von denen heute so viel die Rede ist? Niemand wird ernsthaft bestreiten, daß aufgrund der allen Menschen gemeinsamen biologischen Struktur, aufgrund eines gemeinsamen körperlich-sinnlichen Bauplanes und eines angeborenen Sprachvermögens, ferner aufgrund der Einbettung alles menschlichen Lebens in prinzipiell gleiche terrestrische Bedingungen auch bestimmte gemeinsame Grundstrukturen im geistig-seelischen Bereich anzunehmen sind. So wie alle Menschen den gleichen Gesetzen von Geburt, Leben und Tod, Atmung und Stoffwechsel unterworfen sind, wie sie aufgrund der gleichen körperlichen Voraussetzungen sehen, hören und schmecken, so empfinden sie sicher auch alle Hoffnung und Angst, Freude und Schmerz. Auch die einzelnen Sprachen tragen offensichtlich gemeinsame Züge: in jeder wird mit einem begrenzten Phoneminventar ein Lautsystem aufgebaut, mit dem eine begrenzte Anzahl grammatischer Formen gebildet werden, zugleich aber unbegrenzt viele Wörter und Sätze bildbar sind. In jeder Sprache kann etwas von etwas prädiert werden, in jeder ist Aussage, Frage, Antwort usw. möglich. Aber diese Gemeinsamkeiten liegen schon auf einer ziemlich hohen Abstraktionsebene; steigt man hingegen in die konkrete Sprachwirklichkeit hinunter, so bietet sich ein ganz anderes Bild. Aus der Nähe betrachtet ergibt sich: Kein

Individuum ist dem anderen gleich, kein Volk dem anderen, keine Kultur der anderen, keine Sprache der anderen. In der Realität steht Individuelles neben Individuellem. Hier bietet sich dem Beobachter ein buntes Bild der Verschiedenheiten dar. Auch die einzelnen Sprachen erweisen sich bei näherem Hinblicken als so eigenartig und vielgestaltig, daß es bisher noch nicht gelungen ist, sie alle in einer überschaubaren typologischen Ordnung unterzubringen. Die Schicksale der Völker und Nationen waren so verschieden, daß sich unendlich viele Besonderheiten herausgebildet haben, hinter denen die gemeinsamen Grundlagen oft nur noch schwer zu entdecken sind.

Mag es auch naheliegen, in jeder Sprachgemeinschaft die Existenz allgemeinemenschlicher Phänomene wie Liebe und Haß anzunehmen, so bleibt doch fraglich, ob in jeder Sprache auch entsprechende Begriffe anzutreffen sind. Es kann z.B. sein, daß in einer Sprache das eine oder andere ganz fehlt oder daß vielleicht in differenzierter Weise über "Liebe" gesprochen werden kann, während von "Haß" nicht oder kaum die Rede ist—oder umgekehrt. Es ist durchaus möglich, daß die Begriffsfelder, in denen "Liebe" und "Haß" ihren Platz haben sollten, in den einzelnen Sprachen so verschieden aufgebaut sind, daß der Vergleich äußerst schwierig wird. Gleichsetzungen sind schon in benachbarten Sprachen bedenklich. Wer wagte zu sagen, ob dt. *Liebe* in jeder Hinsicht engl. *love*, frz. *amour*, ital. *amore*, span. *amor* usw. entspricht? All diese Begriffe gehören in verschiedene Begriffsnachbarschaften, sie haben in den einzelnen Gefügen einen verschiedenen Stellenwert, was sich auch in den verschiedenen Gebrauchsweisen und in den spracheigentümlichen, oft unübersetzbaren Redewendungen zeigt. Wenn dem aber so ist, dann fragt es sich, ob es in der Sprachwissenschaft in erster Linie auf den Nachweis möglicher Gemeinsamkeiten oder auf die Einsicht in die tatsächlich wirksamen Besonderheiten ankommt.

Und hier scheiden sich die Geister:

Antimentalistisch eingestellte Forscher neigen eher der Auffassung zu, in der Wissenschaft gehe es vor allem um die Ermittlung des Generellen und des Gemeinsamen. Die Erforschung der Besonderheiten, also auch der Gedanke von den sprachlichen Weltbildern, wäre dann zurückzuweisen, zumal es sich hier angeblich um eine unbewiesene idealistische Spekulation handelt. Die "Mentalisten" betonen gerade die Verschiedenheiten und vertreten die Ansicht, daß diese erst völlig erkannt sein müssen, bevor das Gemeinsame mit Aussicht auf Erfolg erforscht werden kann. Wahres Verstehen zwischen den Menschen verschiedener Sprache kann es ihrer Ansicht nach erst geben, wenn man die Eigenheiten der eigenen und der fremden Sprachen, mit denen man es zu tun hat, wirklich kennt. Auf solcher Voraussetzung beruht auch das Forschungsprogramm, welches die deutsche Sprachinhaltsforschung entworfen hat. Wie wichtig dieser Standpunkt auch für das Zusammenleben der Völker ist, soll nun noch verdeutlicht werden.

Zunächst ist zuzugeben, daß wir im Augenblick noch äußerst wenig über die "inneren Formen" der Sprachen, über ihre semantischen und syntaktischen Strukturen wissen. Metalinguistik, Ethnolinguistik, Psycholinguistik und Sprachinhaltsforschung stehen

erst am Anfang einer in den Zielsetzungen verwandten Forschungsarbeit. Wir wissen noch nicht, wie und in welchem Ausmaß die Begriffsstrukturen in den einzelnen Sprachen Denken und Handeln der Sprachgemeinschaften beeinflussen. Wohl aber können wir mit Bestimmtheit sagen, daß hier mit Einwirkungen zu rechnen ist. Es ist nicht so, wie gelegentlich behauptet wird, daß die grammatischen und semantischen Formen und Inhalte einer Sprache an sich wertneutral sind und erst im individuellen Sprachgebrauch, dem Willen des Sprechers gehorchend, ihren bestimmten Sinn erlangen. Vielmehr liegen sie als Vorgeprägtes, mit verschiedenartigen Wertungen und Sehweisen bereits vorbelastetes Sinnpotential und als Bedingung der Möglichkeit des Sprechens jedem individuellen Sprechakt zugrunde. Wohl stimmt es, daß nicht die Sprache lügt, sondern der Sprecher, weil Wahrheit und Lüge persönliche Absicht und Willen voraussetzen, aber die Sprache kann sehr wohl falsche bzw. unangemessene Sehweisen vermitteln und tradieren, die auch das Urteil des wohlgesonnensten Sprechers u.U. trüben. Daß z.B. ein bestimmter Käfer im Dt. als *Marienkäfer*, d.h. als ein ausgesprochen Gott wohlgefälliges Tierchen bezeichnet wird, ein anderes Insekt dagegen als *Ohrwurm* bekannt und deshalb gefürchtet ist, hat dem einen Tier mehr genutzt und dem anderen mehr geschadet, als es jede gezielte Meinungsbeeinflussung zu erreichen vermocht hätte.<sup>8</sup> Wer also in solch subtilen Fragen ein Urteil sprechen möchte, muß alle Zusammenhänge berücksichtigen, wenn er Irrtümer vermeiden will.

Die Verschiedenheiten der Sprachen sind besonders auf dem semantisch-begrifflichen Sektor vermutlich schwerwiegender als bisher angenommen wurde. Man sollte dabei nicht so sehr die Einzelfälle im Auge haben, wo einer Sprache ein Begriff zu fehlen scheint, während sie an anderer Stelle erstaunlich fein differenziert. Solche Unterschiede können historische Gründe haben und milieubedingt sein, aber ohne Belang für die Sprachstruktur. Wenn aber in der Gegenwart grobe Mißverständnisse zwischen Völkern und Nationen das Übliche sind und wahres gegenseitiges Verstehen selbst innerhalb einer Sprachgemeinschaft so selten geworden ist, so wird man kaum fehl gehen in der Annahme, daß dabei sprachliche Faktoren von viel größerer Tragweite mit im Spiele sind. Bedenkt man, daß z.B. alle politischen Grundbegriffe ihren bestimmten Eigen- und Stellenwert nicht nur in den einzelnen Schrift- und Umgangssprachen, sondern auch in den verschiedenen politischen Systemen und Parteien haben, daß also etwa der amerikanische Begriff *democracy* nicht dem gleichlautenden englischen, auch nicht dem dt. *Demokratie* und sicher nicht dem sovietischen *demokratija*, aber auch nicht dem chinesischen *min-chu*, dem japanischen *minshu* oder dem vietnamesischen *dan-chu* entspricht, dann wird deutlich, daß man in der Politik nie den gewohnten eigenen Begriff dem Umgang mit Vertretern fremder Staaten zugrundelegen kann.

Wenn heute die Welt voller Unruheherde ist, wenn Kriege die Menschheit immer

<sup>8</sup> Ähnlich steht es auch in anderen Sprachen, vgl. z. B. frz. *bête à bon Dieu*, it. *madonnina*, engl. *lady-bird*, russ. *bož'ja korovka* (Coccinellidae) und frz. *perce-oreille*, it. *verme auricolare*, engl. *earwig*, russ. *uchovertka* (Forficula auricularia).

wieder in Schrecken versetzen, so sind es sicher nicht nur und in erster Linie wirtschaftliche Spannungen und machtpolitische Interessen, die zu solchen Konflikten führen. Vielmehr scheint mir ein ebenso schwerwiegender Grund darin zu bestehen, daß die Völker sich einfach nicht verstehen, weil sie die fremden Sprach- und Geisteswelten, die fremden Mentalitäten kaum oder gar nicht kennen und deshalb auch nicht zu begreifen vermögen. Der eine weiß also gar nicht, was der andere eigentlich will. So ergeben sich Mißverständnisse, die Mißtrauen und Haß auslösen können. Wenn die Vereinigten Staaten sich in diesen Jahren und Monaten in einen ausweglos scheinenden Kampf in einem entfernten kleinen asiatischen Land haben verwickeln lassen, so wird man den letzten Grund weder in imperialistischen noch in wirtschaftlichen Ambitionen zu suchen haben, sondern vielmehr darin, daß diese Nation so sehr von der Richtigkeit und Wahrheit der eigenen politischen und moralischen Anschauungen überzeugt war, zugleich aber so wenig Einfühlungsvermögen in die Besonderheiten asiatischer Mentalität besaß, daß sie die eigene Weltanschauung verbreiten zu müssen glaubte. So konnten Hilferufe zur Einmischung in fremde Angelegenheiten führen. Was in bester Absicht begann, mußte im Unheil enden. Hätte man erkannt, daß für einen vietnamesischen Bauern Begriffe wie "Kommunismus", "Demokratie" und "Freiheit" in seiner Lebenslage etwas völlig anderes sind als für den Durchschnittsamerikaner, hätte man gewußt, daß man die eigenen gewohnten Begriffsinhalte nicht denen asiatischer Sprachen gleichsetzen kann, wäre sicher viel Unglück vermieden worden. Zwar hatte ein Mann wie A. Korzybski in der von ihm begründeten General Semantics-Bewegung ausdrücklich vor den Gefahren unadäquaten Sprachgebrauchs, z.B. vor Verallgemeinerungen und voreiligen Identifikationen gewarnt, aber gerade Schlagwörter und Parolen wie "Alle Vietkong-Anhänger sind Kommunisten" sind es, die wie in Hitlers und Stalins Zeiten den Boden für politische Fehlentscheidungen bereitet haben.<sup>9</sup>

In all diesen Irrungen und Wirrungen spielen sprachliche Faktoren nach meiner Überzeugung eine verhängnisvolle Rolle.

Das Gleiche gilt auch für die Auseinandersetzungen, die sich heute innerhalb einzelner Sprachgemeinschaften zwischen akademischer Jugend und den etablierten Institutionen abspielen. Auch hier versteht man sich nicht, weil man nicht mehr die gleiche Sprache spricht bzw. gleichklingenden Begriffen neue Stellenwerte zuweist, die nur aus der Einbettung in neu aufgebaute Spezialfelder politischer Begriffe verstanden werden können, welche aus sehr heterogenem Gedankengut stammen. Die Unstabilität dieser Stellenwerte führt fast zwangsläufig zu ständigem Aneinandervorbeireden und macht es fast unmöglich, ein Argument so einleuchtend zu formulieren, daß auch der Andersgesinnte es gelten lassen muß. Wahrheit und Vernunft geraten auf diese Weise in einen Prozess der Relativierung, der auch das herkömmliche Vertrauen in die Macht

---

<sup>9</sup> Wichtige Einsichten in diese Zusammenhänge hat auch E. T. Hall in seinem Buch *The silent language* geliefert, Greenwich (Conn.): Fawcett Publ. 1967.

der Logik und der Tatsachen erschüttern muß. So kommen überlieferte Ordnungen ins Wanken, weil die Begriffe ihre alte Geltung verlieren. Wie wichtig aber eine verbindliche Begriffsordnung ist, das hat bereits Konfuzius erkannt, wenn er den Herrschenden als wichtigste Aufgabe die Richtigstellung der Begriffe und Wörter ans Herz legt, denn wenn hier keine Ordnung herrscht, können nach seinen Worten weder die Werke noch Moral, Kunst und Wohlfahrt des Volkes gedeihen.<sup>10</sup>

Nun werden aber alle, die der Sprache keinen solchen Einfluß zutrauen, meine eigene Argumentation für sich nutzen können, indem sie verstärkt darauf hinweisen, daß die Sprachinhalte ja eingestandenermaßen entscheidend vom außersprachlichen Designat abhängen, das in ihnen "zu Wort" kommt. Wenn die Wortinhalte für "Freiheit" und "Demokratie" in den verschiedenen Sprachen verschieden sind, dann eben deshalb, weil sie ganz verschiedene reale Tatsachen bezeichnen. Nicht die Begriffe wären dann also der Grund für die Verschiedenheit, sondern umgekehrt: die Verschiedenheit der Fakten der Grund für die Begriffsverschiedenheit. Das scheint einleuchtend, trifft aber doch nicht die ganze Wahrheit. Denn erstens gibt es gar keine "reinen" Tatsachen und Fakten, sondern stets nur vom Menschen interpretierte, d.h. sprachlich gedeutete Tatsachen. Schon bei der Feststellung dessen, was als Tatsache gelten soll, beginnt der sprachliche Einschlag. Wohl können besonders die sinnlich wahrnehmbaren Gegenstände aufgrund ihrer Gestalt und Funktion den Sprachinhalt deutlich mitbestimmen und ihn, wenn nötig, auch korrigieren. Aber im Bereich geistiger Begriffe ist die Sprachabhängigkeit ungleich größer. Hier ist der Nachweis der sie mitbestimmenden außersprachlichen Voraussetzungen sehr viel schwieriger. Umso nötiger ist der Blick auf die sprachliche Umgebung.<sup>11</sup>

Wenn wir aber das Verhältnis von Sprach- und Sacheinfluß noch genauer bestimmen wollen, sind aber weitere Überlegungen erforderlich: Da muß zunächst festgestellt werden, daß kein Wortinhalt, beziehe er sich nun auf Materielles oder Geistiges, den außersprachlichen Gegenstand vollständig erfassen kann. Immer wählt die Sprache nur bestimmte Merkmale, bestimmte Seiten aus. Stets kann sie nur Bruchteile der Wirklichkeit erfassen und mitteilbar machen. Sie stellt grundsätzlich der Realität gegenüber eine Abstraktion dar. Deshalb bedarf jedes Wort und jeder Satz zum vollen Verständnis der Ergänzung, bisweilen auch der Korrektur vom außersprachlichen Gegenstand bzw. Sachverhalt her. Diese notwendige Ergänzung liefert in der Regel die Erfahrung, die Kenntnis der Sachen. Wie aber steht es, wenn wir eine fremde Sprache vor uns haben, die diese Erfahrungen nicht mitliefert? Hier muß der Kontext zu Hilfe kommen, der im Normalfall bald den Anschluß an eigene Erfahrungen gestattet und so das Verständnis erleichtert. Je unbekannter und fremder die Sache ist, von der die Rede ist, desto kommentarbedürftiger bleibt die fremde Rede, desto größer muß der erklärende Kontext sein. Ein einfaches Beispiel mag das verdeutlichen:

<sup>10</sup> Kung Futsze: *Gespräche*, Bd. XIII, 3.

<sup>11</sup> Vgl. dazu *Duden-Grammatik der deutschen Gegenwartssprache*, <sup>2</sup>verm. u. verb., Mannheim: Bibliographisches Inst. 1966, 445–455.

Höre ich, daß ein Japaner Reis ißt, so verstehe ich ohne weiteres, was da geschieht, denn auch in Europa ißt man Reis. Nicht aber sagt mir diese Mitteilung, daß man in Japan den Reis mit Stäbchen ißt. Europäisches Reissessen impliziert Gabel bzw. Löffel und Teller, asiatisches Reissessen Reisschale und Stäbchen. Diese besondere Information liefert die Aussage über das Reissessen des Japaners nicht mit. Der Kontext kann sie aber leicht ergänzen. Sprachen lernen heißt aber zugleich Kontexte lernen und fehlende Erfahrung und Kenntnis fremder Lebensumstände durch zusätzliche sprachliche Informationen ersetzen.

Aber auch hierbei macht sich wiederum der bereits erwähnte Unterschied zwischen konkreten und abstrakten Erfahrungsgegenständen bemerkbar. Kommentarbedürftig sind beide, aber während im Sachbereich erläuternde Hinweise relativ leicht zu geben sind, ist dies im geistigen Bereich oft ungleich schwieriger. Wo kein realer Gegenstand vorzuweisen ist, der das Verstehen erleichtert, muß der sprachliche Kontext u.U. sehr ausführlich werden, damit ihm genügend Verständnishilfen entnommen werden können. Fehlt ein solcher Kommentar und vermag der Hörer das Fehlende nicht aus eigener Kenntnis der fremden Verhältnisse zu ergänzen, dann bleibt ihm kaum etwas anderes übrig, als das unverständene Fremde an etwas Eigenes anzuschließen, das der Sache vermutlich nahekommt. Dieses Bekannte aber ist ganz von der eigenen Erfahrungswelt bestimmt. So beginnt eine gedankliche Verschiebung: dem Fremden wird kurzschlüssig Eigenes unterschoben. Auf diese Weise kann es zu Fehldeutungen kommen, die das Verstehen erheblich beeinträchtigen. So geschieht es in der Praxis unausgesetzt. Solange es sich um belanglose Angelegenheiten handelt, mag solches Mißverstehen ohne weitere Folgen bleiben. Schwerwiegender wird das Problem, wenn wir z.B. den Bereich politischer Begriffe und Ideologien berühren. Hier ist es besonders schwer, die außersprachlichen Faktoren auszumachen, die die sprachlichen Inhalte bestimmen, zumal hier auch noch subjektive und emotionale Elemente mit im Spiel sind. Nur umfangreiche Kontexte könnten hier persönliche Erfahrungen im fremden Lande annähernd aufwiegen. In derartigen Fällen wird nun der Blick auf die zugehörigen Begriffsgefüge, auf die sprachlichen Feldgliederungen wichtig, denn diese können u.U. schneller zum rechten Verständnis führen. Zur Erfassung dieser inhaltlichen Ordnungen reicht Sprachenkenntnis allein noch nicht aus, sondern hier ist zusätzliche sprachwissenschaftliche Hilfe nötig. Sprachinhaltsforschung wird so zur unausweichlichen Forderung. Sie ersetzt bis zu einem gewissen Grade Kontext und Erfahrung, indem sie die Begriffsstrukturen durchleuchtet und die Stellenwerte sichtbar macht, auf die es beim Verstehen ankommt. Denn es ist leichter, durch Betrachtung des Feldnachbarn, der Gegenbegriffe usw. einen Einblick in das inhaltliche Gefüge zu gewinnen, als den schwer erreichbaren außersprachlichen Hintergrund aufzuhellen.

Es wird an dieser Stelle deutlich, daß es keineswegs genügt, von einem Wörterbuch auszugehen und die einzelnen Wortbedeutungen isoliert stammbaumartig zu analysieren, wie etwa Fodor und Katz es im Rahmen ihrer strukturellen Semantik versuchen. Vielmehr müssen die gesamten Gliederungen erfaßt werden, in denen die einzelnen

Wörter ihren Stellenwert haben. Um diese Gliederungen sichtbar machen zu können, müssen sie von den außersprachlichen Designaten und deren immanenter Ordnung abgehoben und vor dieser Vergleichsfolie in ihrer Eigenart erkannt werden. Das Außersprachliche darf also nicht ausgeschlossen bleiben. Daß dieses Verfahren tatsächlich anwendbar ist, läßt sich am Beispiel des Verwandtschafts- oder des Farbfeldes zeigen. Der Sprachvergleich sollte dann als wichtiges ergänzendes Forschungsmittel hinzukommen. Erst wenn man diese sprachwissenschaftlichen Erkenntnishilfen nutzt, kann es gelingen, eindeutig zu bestimmen, was ein Angehöriger einer fremden Sprache wirklich meint, wenn er als Vertreter einer sozialen Klasse, als Mitglied bestimmter religiöser Gemeinschaften oder politischer Parteien eine Aussage macht und dabei bestimmte Begriffe verwendet. Sprachwissenschaftliche Klärung ist nötig, wenn Eigen- und Stellenwert der fremden Inhalte erschlossen werden sollen. Der Schlüssel zu wahren Verstehen liegt hier.

Wir sehen, wie kompliziert die Zusammenhänge sind, und erkennen zugleich, daß der Sprachforscher allein diese Aufgaben nicht meistern kann. Vielmehr ist hier die Zusammenarbeit von Forschern verschiedener Disziplinen erforderlich, ein Teamwork von Vertretern aller Fachrichtungen, die Aufschlüsse über alle beteiligten Wissensbereiche zu geben vermögen. Deshalb wird es noch lange dauern, bis die Voraussetzungen für eine erfolgreiche Forschungsarbeit auf diesem Gebiet gegeben sein werden. Umso mehr verdient ein Vorschlag Beachtung, den der polnische Philosoph Adam Schaff in seinem Buch "Sprache und Erkenntnis" nach eingehender kritischer Prüfung der sog. metalinguistischen Sapir-Whorf-Hypothese gemacht hat.<sup>12</sup> Schaff ist der Überzeugung, daß die von Humboldt, Whorf und anderen angenommenen engen Beziehungen zwischen Sprache und Denken, Sprache und Kultur usw. nur dann wissenschaftlich bewiesen werden können, wenn in internationaler Zusammenarbeit (z.B. mit Unterstützung der UNO und UNESCO) gemischter Forscherteams eine Totalanalyse besonders aufschlußversprechender und möglichst noch vom Weltverkehr abgeschlossener Sprachgemeinschaften durchgeführt wird. Eine solche Aufgabe wäre in jedem Falle lohnend, verspricht sie doch noch genauere Aufschlüsse zu geben über die Eigengesetzlichkeiten des menschlichen Geistes und über die Bedingungen der Möglichkeit gegenseitigen Verstehens. Die Beantwortung dieser Fragen würde einen entscheidenden Beitrag zur Völkerverständigung und zum Weltfrieden darstellen. Selbst negative Ergebnisse wären in diesem Falle wertvoll.

Weil ein solches Projekt Ost und West verbinden und die Kluft zwischen politischen und weltanschaulichen Ideologien überbrücken könnte, weil zudem durch Adam Schaff von philosophischer Seite, durch die metalinguistischen Bestrebungen in den USA und die Sprachinhaltsforschung in Deutschland von sprachwissenschaftlicher Seite schon wesentliche theoretische und praktische Vorarbeit geleistet ist, möchte ich mit dieser

<sup>12</sup> Vgl. Adam Schaff: *Sprache und Erkenntnis*; deutsche Übersetzung von Jezik a Poznanie, Warszawa 1964, Wien/Frankfurt/Zürich: Europa Verlag 1964, 91–93.

Geburtstagsgabe für Shirô Hattori diesen Vorschlag auch den japanischen Kollegen unterbreiten und sie bitten, sich ebenfalls für seine Realisierung einzusetzen.

UNIVERSITÄT BONN, DEUTSCHLAND



# RÉFLEXIONS PRÉALABLES À UNE ÉTUDE DE LA FONCTION ET DE LA NATURE DE LA PARTICULE ENCLITIQUE *-wo*

CHARLES HAGUENAUER

Nous nous proposons de rappeler et résumer ci-après des notions que suppose toute recherche approfondie touchant la fonction syntaxique essentielle de l'enclitique *-wo* ainsi que sa nature "première," en japonais ancien et classique.

Passe-t-on de l'étude de la fonction qui est celle de *-wo* en japonais "standard" *hyōzūngo* à celle des emplois que ce *-wo* a ou aurait connus en japonais historique, on ne peut manquer d'observer qu'il n'exerce plus actuellement qu'un rôle limité, celui de signe du mot-objet, alors qu'il en aurait tenu au moins trois, si l'on s'en rapporte aux grammaires du japonais ancien et classique: en effet, selon les spécialistes, ladite enclitique a constitué une particule interjective-émotive; elle a assumé une fonction casuelle, celle d'indice de l'accusatif; après quoi, elle a été utilisée à la manière d'une conjonction, au moins quand elle affectait une forme *rentai*. Autrement dit, de trois, les emplois de *-wo* auraient été réduits à un seul dans la langue actuelle. S'en rapporte-t-on aux explications des grammairiens et des philologues japonais, *-wo* qui n'aurait commencé d'apparaître en tant que conjonction que dans des textes de l'époque de Heian, aurait exercé dès lors un effet "adversatif-restrictif," ou bien un effet "en retour" *hanrei* susceptible de nuances. Pour sa part, M. Korežima M. a exposé comment il conçoit cette évolution: selon lui (cf. son article intitulé *Žoši -wo-no rekiši*, p. 355 et suiv. du *Kindaiči hakase koki kinen "Gengo minzoku ronsō"*, et là, en particulier, le paragraphe intitulé *Kandō-yori setsuzoku-'e*), *wo*, particule "émotive" à l'origine, a assumé graduellement la fonction casuelle et un rôle conjonctif. On ne peut toutefois s'empêcher de noter une certaine hésitation de la part des grammairiens quand il s'agit de limiter la portée du terme *setsuzoku.žoši* (particule d'enchaînement, de connexion) par rapport à celle du terme *kantō.ši* (mot interjection), celui-ci appliqué au *wo* qui est jugé susceptible d'exercer l'effet *hanrei*, c'est-à-dire lorsqu'il s'agit, pratiquement, de distinguer ce qui est particule de liaison de ce qui, étant interjection, ou supposé tel, a pu introduire une nuance déjà restrictive. Cette hésitation ressort, par exemple, de passages du *Nihon bumpō yōsetsu* (cf. op. cit., IIe partie du *Kōgo.hen*, p. 81-82, puis p. 168, 1. 5-6) de M. Satō K. qui incline à juger, non sans de prudentes réserves, que le *-wo* a constitué un *kantō.ši* avant de fonctionner comme *setsuzoku. žoši*; tandis que, pour d'autres spécialistes, c'est le *-wo* "émotif" *kandō-teki* qui a progressivement

assumé un effet connectif.

Face aux données qu'on vient de résumer ci-dessus, le linguiste ne saurait dissimuler un certain embarras, de l'étonnement: au moins manifestera-t-il le désir de connaître quelles preuves tangibles, historiquement fondées, résultant d'une recherche diachronique sont à la base de la conception que les spécialistes japonais se font de l'origine et de l'évolution du morphème enclitique *wo*. Pour sa part, au contact à la fois des faits et des textes, le japonologue sentira le doute naître dans son esprit, et, en l'occurrence, un doute fondé sur des objections sérieuses.

A— Sur un premier point, à savoir la nature "interjective" ou "émotive" qui, *principiellement*, aurait été celle du morphème enclitique *wo*, les raisons qu'on a de douter de l'exactitude des affirmations des grammairiens japonais et des historiens nippons de la langue japonaise sont d'autant plus légitimes qu'on a affaire en réalité à des allégations: en effet, il n'a jamais été démontré de façon claire et définitive, du moins que nous sachions, que ledit morphème a effectivement rempli, dans les plus anciens textes utilisables, une fonction *uniquement* interjective ou émotive, *antérieure* à toute autre fonction.

Se fonder sur le fait que *wo* se présente à la fin d'*uta* dans le *Koziki* ou de poèmes du *Man.yōshū* pour convaincre qu'on a affaire là à un morphème interjectif, ne constitue certainement pas un argument de poids. Au moins devrait-on éviter de chercher des exemples probants dans un mode d'expression qui comme l'*uta* ne reproduit pas le langage normal. Par ailleurs, conclure qu'un *wo* est interjectif uniquement de ce qu'il ne paraît pas exercer une fonction casuelle dans tel "vers" ou à la fin de tel *uta* (cf. Satō K. op. cit., IIe partie, p. 167, qui fait état de tournures du type . . . *yama-wo takami* . . . , ou du type . . . *imo-wo nikuku araba* . . . ) constitue, en dernière analyse, un jugement personnel, forcément entaché de subjectivité. Retient-on ces deux mêmes exemples, on peut envisager en effet que le *-wo* n'y remplit point un rôle interjectif après *yama* (mot invariable), mais y est passible d'une interprétation différente de celle dans laquelle on lui dénie la fonction de signe précis de l'accusatif; quant au *-wo* qui affecte *imo*, on n'aperçoit vraiment aucune raison de lui reconnaître la fonction interjective dès lors qu'on se refuse, avec d'autres spécialistes du *Man.yōshū*, à considérer qu' *imo* constitue un sujet *śugo* (cf. Satō, op. cit., p. 167, l. 13) dans le corps du poème en question (cf. *Man.yōshū*, I, n° 1).

Examine-t-on maintenant le *-wo* qui termine certains poèmes, on reste très loin d'avoir la certitude qu'il y remplit un rôle interjectif. Pour notre part, nous ne lui reconnaissons ce rôle ni à la fin du poème n° 40 du t. I du *Man.yōshū* ( . . . *araki śima-ni wo*) pour cette raison que nous lui en assignons un autre, ni —autre exemple possible— à la fin de l'*uta*: *Ka.ga nabete yo-ni-wa kokono yo hi-ni-wa tō ka wo* du *Koziki* (cf. Nakazima E., *Koziki hyōshaku*, p. 336 et la note à la ligne 11 de la moitié inférieure de la p. 337); dans ce dernier cas, en effet, compte tenu du fait que *nab.u* constitue un verbe

transitif, nous préférons penser qu'on est en présence d'une tournure elliptique, dans laquelle -wo retient sa valeur d'indice casuel.

Une autre raison que le japonologue a de douter que *wo* ait exercé une fonction interjective réside dans le fait que plusieurs spécialistes nippons ont fait remarquer que cette enclitique intervenait alors — soit à la fin d'une phrase simple, soit à la fin d'une proposition ou d'une phrase complexes—dans un énoncé tronqué (M. Satō écrit: "une forme dont la fin est abrégée" *ge.ryaku-no kataċi*; cf. op. cit. IIe partie, p. 168, 1. 11), en particulier dans des tournures impératives et en langue parlée *hanaſi kotoba*. En effet, le japonologue pourra juger que le *wo* considéré intervient souvent soit dans un tour elliptique, soit dans une construction inversée dans laquelle aucun élément sémantique, aucun morphème fonctionnel ne font défaut, et qu'il y remplit exactement un rôle casuel. Du moins est-ce ce qui ressort des deux exemples suivants:

a) Énoncé elliptique:

... *hitotsu-no muſi-wo dani korosazu/ika-ni iwamu ya/hito-wo ya*, ... (nous qui) ne tuons pas même un insecte, (tuerions-nous)—est-il besoin de le dire?—un être humain?

N.B. Cf. *Konſaku monogatari*, II, 28.

Une forme verbale *korosamu* est impliquée entre *hito-wo* et le *ya*, interrogatif-exclamatif, final. La réponse attendue est: "Bien sûr que non!"

b) Construction inversée:

*Suzume-no ko-wo/Inuki-ga nigaſitsuru/husego-no uċi-ni kometaritsuru mono-wo/to-'te* ... , (elle) dit: "Le petit moineau, Inuki l'a laissé échapper,—lui *mono* qu'on avait enfermé dans la corbeille", et ...

N.B. Cf. *Genſi monogatari*, Wakamurasaki.

Il est erroné de faire de *mono-wo* un syntagme adversatif, et de le paraphraser par ...-no-ni, "et pourtant, on l'avait enfermé..." C'est cependant ce qu'a fait M. Tamagami T. dans son *Genſi monogatari hyōſaku*, II, p. 44. L'énoncé reproduit le langage haché d'une petite fille qui est sous le coup d'une émotion vive. Cf. nos "Études de Linguistique japonaise," I, p. 250-251.

Au reste, la raison majeure qu'on a de douter et de l'antériorité du *wo* "interjectif" par rapport au -wo "casuel" et de la nature interjective qui aurait été celle de ce dernier, du moins à l'origine, réside dans les constatations suivantes:

a) L'un et l'autre de ces *wo* étant attestés dans les plus anciens textes connus, si l'on s'en tient à l'interprétation que les philologues proposent de leur fonction, on se trouve non seulement dans l'incapacité absolue de préciser à partir de quelle époque le -wo "casuel" a pu acquérir sa fonction, mais aussi de prouver de façon irréfutable qu'il est issu du *wo* interjectif.

b) On est même parfaitement fondé à se demander si le japonais ancien a réellement utilisé un morphème *wo* de nature interjective, historiquement distinct du -wo casuel,

ou bien antérieur à lui, et susceptible, comme tel, d'en expliquer l'apparition.

Pour tout dire, on est conduit à penser que l'antériorité du *wo* "émotif-interjectif" pourrait bien n'avoir d'autre fondement qu'une hypothèse fragile, selon laquelle ce qui est "cri" a précédé l'apparition du signe casuel, outil qui suppose, lui, chez le sujet pensant et parlant, la faculté d'établir des rapports logiques précis entre les termes essentiels d'un énoncé. Qui plus est, il se pourrait que le *wo* "interjectif" n'existât que dans la pensée de spécialistes qui, à des siècles de distance, ont nourri l'impression qu'un morphème *wo* introduisait une nuance "émotive" dans le discours, pour cette raison unique qu'à leur sentiment, ce *wo* ne remplissait pas un rôle casuel. Qu'il s'agisse là d'un jugement entaché de subjectivité, cela ressort en tout cas de ce que les meilleurs des spécialistes ne sont pas constamment d'accord lorsqu'ils doivent se prononcer sur le rôle exact qu'un *wo* a pu jouer dans tel contexte donné.

Finalement, une autre question vient à l'esprit: si le *wo* "émotif-interjectif" a existé, comment son absence s'explique-t-elle en japonais moderne?

B— Touchant un second point, à savoir cette fois la faculté que *wo* a eue ou aurait acquise de servir de signe distinctif du mot-objet, on ne saurait perdre de vue que le rapport de complément direct à mot variable et, en particulier, à mot verbal, ne s'est pas établi *obligatoirement*, à l'aide de ce morphème enclitique, en japonais historique (ancien et classique). A ce propos, il importe, ici, non pas tant de rappeler l'opinion (cf. Tokieda M., *Nihon bumpō*, Bungo.hen, p. 209) selon laquelle *wo* n'aurait pas eu, dès l'origine, un rôle logique *ronri-teki* précis —entaché qu'il était d' "émotivité"— que d'insister sur le fait que le rapport en question pouvait ne ressortir que de la seule antécédence du mot-objet (celui-ci, non-affecté d'un *wo*) sur le mot verbal.

Ce fait irréfutable s'observe déjà dans la formation des mots composés des types suivants: *ki. koī.i* (celui qui) coupe arbre = bûcheron; *ama. goh.i*, (le-)implorer pluie *ame>ama.*; *mono.gatarahu*, (le-) conter (des) choses; *na.nor.u*, (le-)dire (son) nom; etc. Mais, il saute aux yeux aussi bien, dans les énoncés plus élargis que sont, par exemple: *Hune-ni norite tatsu korošite* . . . , (étant) monté en bateau, tuer (le) dragon et . . . , cf. *Taketori monogatari*, sect. 6— . . . *go.hakō-no tōtoku haberiši koto/inišihe-no on.koto* . . . *kiko'etsutsu* . . . , . . . tout en (lui) disant la solennité (qui) avait été (celle) des "Huit-commentaires," les Faits d'antan, . . . , cf. *Genzi monogatari*, Kagerō, 1. 11 de la p. 318 du T. XVIII du "Nihon koten bungaku taikei"; *koto* constitue ici, à deux reprises, un mot-objet en rapport avec un seul verbe— . . . *awoki kame-no ōki-n'aru* ("rentai") *suwete* . . . , . . . (on) avait placé (là) (une) grande jarre bleue, et . . . , cf. *Makura-no sōshi*, sect. 20, p. 84 du "Hyōsaku" de Kaneko M. En bref, l'omission du *-wo* casuel était courante chaque fois que le mot-objet précédait directement ou devançait de peu le mot verbal avec lequel il était à mettre en rapport.

Bien plus, on constate que le rapport considéré peut ne ressortir que du contexte; ex.: *Nazo-no humi zo to omohite torite mireba* . . . , "Quel (message) écrit (est-ce) donc?," pensa (-il), et (le) prenant, lorsqu' (il le) regarde . . . , cf. *Yamato monogatari*, histoire

n° 105, p. 285 du t. IX de NKBT—ex. : . . . *sara-ni e.mi.idezū/Yama-ni . . . motomesasuredo sara-ni naši*, . . . (on) n'arrivep as plus à (le=un fauconéch appelé) découvrir. (Le) fait rechercher . . . , pourtant (de faucon) toujours point; cf. *Yamato monogatari*, histoire n° 152. Au contraire, le rapport peut être précisé au moyen de -wo chaque fois qu'il ne s'établit pas très clairement—pour cette raison, entre autres, que le mot-objet est simplement rappelé après une forme déterminante (un “*rentai*”); ainsi s'explique le recours qui est fait à l'enclitique dans l'exemple suivant: . . . *ōgi otoši.tamahikeru* (“*rentai*”)-wo *torite* . . . , “ . . . prenant l'éventail qu'(on) a laissé choir . . . ,” puis dans cet autre: . . . *rōtage-ni mi'esi* (“*rentai*”) -wo *mi.čikaku tsukahu hito-ni semu*, “ . . . (de lui) qui m'a paru (être) gentil, (j'en) ferai (une) personne que j'emploierai prè sde moi (=je l'attacherai à mon service personnel),” cf. *Genži monogatari*, Hahakigi.

A ces constatations dont l'évidence et l'objectivité sont irréfutables, il convient d'ajouter les suivantes (ci-après § a à i inclus):

a) S'agissant d'*uta* anciens, on notera (cf. Matsuo O., *Kakugo hyōshi-no ōshi* “wo”-ni *tsuite*, dans *Hašimoto hakase kanreki kinen “Kokugogaku ronšū,”* pp. 617-644; cf. Korežima M., art. cité, pp. 355-356; cf. Doi T., dans “Kokubungaku,” *Kaishaku-to kanšō*, XXIII, 4, n° 263, pp. 40-41) que le rapport de mot-objet à mot verbal n'est indiqué par rien dans 74 et par -wo dans 62 seulement de l'ensemble des poésies qui sont conservées dans le *Kōziki*.

b) Se reporte-t-on à un genre de textes très particulier, les *Semmyō*, on observe que -wo y a été relativement peu utilisé (cf. “Kokugo kokubun,” IV, 8, p. 36).

c) Reconsidère-t-on les poèmes avec attention, ceux du *Man.yōshū* entre autres, il est aisé d'observer que l'absence du -wo casuel dans un “vers” peut répondre à une exigence de la “métrique”; c'est ainsi, par exemple, qu'un -wo introduit après *miyako* dans . . . *aretaru miyako* (7 syllabes) *mireba kanaši-mo* (cf. *Man.yōshū*, I, n° 33), eût, en l'allongeant inutilement, faussé le premier de ces deux “vers” dont le nombre de syllabes est limité à sept. Il n'en va pas de même dans . . . *huruki miyako-wo* (7 syllabes) *mireba kanašiki* (cf. op.cit., I, n° 32), où -wo assure exactement le nombre de syllabes requis dans le premier “vers.”

d) Nous jugeons prématuré de rechercher, ici, si le japonais a connu ou non un “accusatif indéterminé.” Sur ce point, cf. nos *Origines de la Civilisation japonaise*, I, p. 468, l. 6 et suiv., ainsi que la note 1, au bas de cette même page 468.

e) Est-on fondé à penser que les scribes de Nara ont noté par des caractères chinois différents le wo “interjectif” (celui-ci, souvent rendu par 矣) et le -wo “casuel” (rendu, lui, surtout au moyen de 乎), ce qui confirmerait le bien-fondé de l'hypothèse selon

laquelle deux *wo* distincts auraient été reconnus au plus tard, et en gros, à dater de la fin du VIII<sup>e</sup> siècle ap. J.-C. ? A cette question, on croit pouvoir répondre que les scribes ont transcrit le morphème *wo* non point à l'aide de ces deux seuls idéogrammes, mais en en utilisant encore d'autres; il suffit pour le constater de se reporter aux pages 1296 à 1322 du T. II du précieux *Man.yōshū sōsakuin* de Masamune A.

Qui plus est, et cette seconde constatation paraît bien affaiblir l'hypothèse à laquelle il vient d'être fait allusion, pour ne pas dire qu'elle la rend inopérante, on s'aperçoit que 乎 a servi, dans le *Man.yōshū*, à noter non seulement le *-wo* "casuel," mais aussi un *wo* que les commentateurs *modernes* et les philologues *modernes* jugent exercer un effet strictement "interjectif" ou, parfois, servir de "conjonction"; ce qui est en contradiction évidente avec l'affirmation selon laquelle le *-wo* "conjonctif" n'est pas attesté antérieurement à l'époque de Heian. Et si, pour peu qu'il désire acquérir la preuve qu'il ne s'agit pas là d'anomalies, le japonologue examine les emplois qui ont été faits des caractères 遠 et 袁 dans les poèmes du *Man.yōshū* ainsi que dans les *uta* du *Kōziki*, il arrive à une conclusion identique à la précédente: ces caractères y ont servi à rendre tantôt le phonème *wo* (c'est le cas pour *wo* dans *towo* > *tō*, dix), tantôt le *-wo* réputé "casuel" (par ex. dans *ha-wo uzu-ni sase*, cf. *Kōziki hyōshaku*, op. cit., p. 347; cf. *Man.yōshū sōsakuin*, p. 1315), et même un *wo* auquel beaucoup de philologues (cf. la note qui figure à la l. 11 de la moitié inférieure de la p. 337 du *Kōziki hyōshaku*; cf. *Man.yōshū sōsakuin*, p. 1321) attribuent la fonction interjective, ou même un rôle conjonctif (cf. *Man.yōshū sōsakuin*, p. 1318).

La conclusion qui est à tirer des constatations précédentes s'impose d'elle-même: la confusion qu'on observe d'une transcription de *-wo* à une autre ne permet point de croire que les scribes ont effectivement reconnu l'existence de trois enclitiques *wo*, ou d'un *wo* susceptible de trois fonctions, en japonais ancien.

f) Examine-t-on maintenant des textes anciens rédigés en une prose chinoise correcte, ou relativement correcte, ou déjà structurée à la japonaise (auquel dernier cas le mot-objet est énoncé avant le verbe; de ce point de vue, on comparera par exemple 以明淨心, au *Semmyō* n° 2, avec le 是以, lu *kore-wo mo'te*, qui figure au *Semmyō* n° 1: cf. Kaneko T., *Shoku.Nihongi*, *Semmyō.kō*, p. 57-59, puis 45-46); il en ressort de la façon la plus nette que les *kangakuša* ont rendu par 之 non point l'enclitique *-wo*, mais exactement l'enclitique *-no*. Cette tendance avait même un caractère si exclusif qu'on n'y connaîtrait qu'une seule exception dans le corps du *Man.yōshū* (liv. XII, n° 3147; cf. *Sōsakuin*, à la l. 15 de la partie médiane de la p. 1316), une exception pour laquelle d'éminents spécialistes n'ont pas hésité à rétablir une leçon 乎, de façon à faire lire . . . *ware-wo mači-kanete* . . . , ce qui fournit non pas les sept syllabes attendues, mais huit.

g) Le japonologue ne saurait passer sous silence les hésitations des spécialistes quand il leur faut se prononcer sur la fonction que *wo* a remplie, anciennement, après des particules enclitiques comme *-to*, *-ni*, *-he*, ou après des morphèmes *-te*, *-tsutsu*, *-ku* que

les grammairiens considèrent comme des suffixes fonctionnels, pour ne pas parler ici du complexe *mono-wo* (cf. Satō K., op. cit., IIe partie, en particulier aux p. 168-171—cf. Yamada Y., *Nara.ô bumpō.ši*, p. 407, 372, et *Heian.ô bumpō.ši*, p. 497-498). Trop souvent, l'explication proposée est entachée, une fois de plus, de subjectivité.

h) Il n'est pas sans intérêt de faire remarquer que, dans le langage familier, et davantage encore dans un grand nombre de dialectes japonais, le rapport de mot-objet à verbe s'établit souvent sans l'aide de *-wo*, en dépit du soin que les instituteurs prennent, depuis plus de soixante-dix ans, de taxer d'incorrection grave l'absence du *-wo* après un complément direct (*ôoku.tei.ši*, *hogo*, *mokutekigo*, *kyakugo* tous mots fabriqués par les grammairiens postérieurement à 1900). Autrement dit, le bon sens et la proximité d'un mot verbal exprimé après un sémantème invariable suffisent normalement à assurer le rapport que les logiciens et grammairiens définissent comme étant celui de mot-objet à mot-verbal. Ex.: . . . *kusa ki-ke* . . . , . . . "pour couper de l'herbe . . ." (cf. *Zenkoku hōgen širyō*, publication du NHK, T. VI, p. 135), dialecte de Saga— . . . *ima-no koto omotara*, . . . si je songe aux choses actuelles . . . (cf. op. cit., T. IV, p. 32), dialecte de Mie—*sogai-na koto šinahan na ya*, ne faites pas de choses comme cela (entendu à Uwajima, Ehime, le 16 décembre 1963)—*go.han koširae šitokimaši*, j'ai préparé le riz (cf. op. cit., T. IV, p. 260), dialecte de Kyōto—*ē-no kōte kite kureta nē*, vous m'en avez acheté, de la bonne (étouffée)! (cf. op. cit., T. IV, p. 361), dialecte de Nara—*kusa karu togyā*, lorsqu'on coupe de l'herbe . . . (cf. T. II, p. 512), dialecte de Nagano—*tenugui kabuô* . . . , se couvrir (la tête) d'une serviette et . . . (cf. T. II, p. 239), dialecte de Ōiba.

Ces exemples dont le nombre est infini confirment ce qu'on a rappelé plus haut (p. 160, au § B): l'absence du *-wo* y répond à une tendance qu'il est aisé de repérer déjà en japonais historique.

i) L'étude des dialectes permet de faire d'autres constatations intéressantes, en particulier d'ordre phonétique et phonologique, touchant le *-wo* casuel:

1°— L'initiale semi-vocalique du *-wo* s'étant délabialisée, le 'o résiduel peut se contracter avec la voyelle qui le précède. Celle-ci est-elle un *o*, le résultat de la contraction sera un *o* long; ex.: *kodomo-no kimonō kōte* . . . , achète un vêtement d'enfant et . . . (cf. op. cit., T. V, p. 389), dialecte de Kōci—*mā sekkaku-no tokorō* . . . *ai.sumimasen*, vous vous êtes dérangé exprès! . . . excusez-moi (cf. op. cit., T. II, p. 281), dialecte de Tōkyō.

Mais on pourra observer une yodisation du *w*- après une voyelle fermée (on comparera avec *kore-wa > korya*); ex.: *maki-yo* . . . *atama-de sasadde* . . . , placer du bois de chauffe sur la tête et . . . (cf. op. cit., T. VII, p. 228), parler de Hačizō.šima—ex.: *oni-no udzū* (<*udi-yu*) *misen ka*, ne montreras-tu pas le bras du démon? (cf. *Ōita-ken hōgen-no kenkyū*, p. 140 sqq., Meibundō, 1937)—*oya.yubyā* (= *oya.yubi-wo*) . . . *nigiri* . . . , saisit . . . le pouce . . . , (cf. *Zenkoku hōgen širyō*, T. VI, p. 191), dialecte de Nagasaki,

dialecte qui répond par *-ba* au *-wo* du japonais.

N.B. L'intérêt de ce phénomène de yodisation réside en ce qu'il pourrait s'être produit dans ceux des parlers de l'archipel des Ryūkyū qui répondent par *-yu* au *-wo* du japonais (cf. *Okinawa-go ziten*, p. 284 s.v. *-ju*; cf. *Yaeyama goi*, p. 91). Mais il reste à prouver que ce *-yu* est issu d'un *-wo/-wu*. On se rappellera, touchant ce point, que le dialecte de Kagošima répond parfois par *-yu* au *-wo* nippon; ex: *ata-yu tanneo*, me rendez visite, cf. *Zenkoku hōgen širyō*, T. VI, p. 509.

2°— Un allongement de la voyelle finale d'un sémantème affecté de *-wo* peut se produire lorsque cette voyelle est de nature fermée; ex.: *kori* (= kore) . . . *nonde* . . ., boire ceci et . . . (cf. *Zenkoku hōgen širyō*, T. VII, p. 218), parler de Hačizō.šima—*ki tsukete* . . . faire attention et . . . (cf. op. cit., T. IV, p. 139), dialecte de Šiga—*mizū abiru*, se doucher (cf. op. cit., T. V, p. 117), dialecte d'Okayama. Mais cet allongement s'observe aussi dans le cas d'un *-a* ou d'un *-e* finals; ex.: *kurā tateru*, édifier un *kura* (cf. op. cit., T. IV, p. 72), dialecte de Mie.

3°— Certains dialectes ont recours à une particule enclitique *-ba* pour établir le rapport de mot-objet à verbe; elle s'entend surtout dans la partie occidentale de Kyūšū, mais aussi sur le versant oriental de cette île; ex.: *sake-ba nōde* . . ., buvant du *sake* . . . (cf. op. cit., T. VI, p. 268), dialecte de Kumamoto—*tsukai-ba yarō*, enverrai un messager (cf. op. cit., T. IX, p. 204), dialecte d'Amakusa—*henši-ba šahenzatta*, n'ai pas fait réponse (cf. op. cit., T. VI, p. 190), dialecte de Nagasaki—*yo-ka to-ba iette* (= *it-no-wo erande*), choisir les bons et . . . (cf. op. cit., T. IX, p. 344), parler de l'archipel Košiki—*kyū-na kot'-ba* . . . *tanomu*, demander une chose urgente (cf. op. cit., T. VI, p. 75), dialecte de Hukuoka—*sori-ba kučū* . . ., manger ça . . . (cf. op. cit., T. VI, p. 423), dialecte de Miyazaki.

La question se pose de savoir si ce *-ba* peut être identifié au *-wa* du japonais (par exemple, pour cette raison que celui-ci peut passer à *-ba*). A cette hypothèse, nous croyons qu'on peut objecter que les dialectes méridionaux utilisent le *-wa*, mais sans le confondre avec le *-ba* (= *wo*) pour ce qui est de la fonction remplie. Toujours est-il que ce dernier n'introduit point dans le discours la nuance "corrélative" qui caractérise foncièrement le *-wa* du japonais.

C— Touchant un troisième point, en l'occurrence le problème que pose la reconnaissance d'un *-wo* "conjonctif," le japonologue est conduit à se poser les trois questions essentielles suivantes: 1°) Ce *-wo* est-il attesté à haute époque, ou seulement au cours de l'époque de Heian; auquel dernier cas, on aurait affaire soit à un *-wo* "interjectif," soit à un *-wo* "casuel" qui aurait été détourné de sa fonction première?—2°) Les spécialistes japonais ont-ils apporté la preuve objective et irréfutable que ledit *-wo* a réellement exercé un effet conjonctif, et en particulier un effet de sens "adversatif" ou "restrictif"?—3°) Quelles causes précises ont entraîné la disparition du même *-wo* dans la langue "standard" et dans les dialectes?

N.B. Notre propos n'est pas d'apporter, ici, une solution au problème complexe



qui se pose au sujet du *-wo* conjonctif; nous tenterons d'en proposer une dans une étude, déjà rédigée, qui fera l'objet d'une publication ultérieure.

A notre sentiment, les spécialistes ne se sont pas prononcés quant à la date de l'apparition du *-wo* "conjonctif," avec une clarté telle qu'on puisse fournir une réponse satisfaisante à la première des questions qui viennent d'être posées: en effet, pour les uns, ce *-wo* ne serait attesté qu'à partir de l'époque de Heian, alors que, pour d'autres, une minorité, on le repèrerait déjà dans le *Man.yōshū*. La lumière n'a pas plus été faite sur la nature du procès au terme duquel ladite enclitique aurait acquis la fonction "conjonctive."

Est-il possible d'apporter une réponse entièrement satisfaisante à la deuxième question? Personnellement, nous ne le pensons point: à elles seules, la diversité des équivalents auxquels les philologues et les commentateurs des textes classiques ont recours pour rendre ce *-wo*, les contradictions qu'on observe de l'une à l'autre des interprétations qui sont fournies à propos de tel *-wo* dans tel contexte donné suffisent à faire douter qu'on tienne la preuve *objective* que le *-wo* a exercé à lui seul, par sa seule présence, un effet "conjonctif" indubitable.

Au moins voudrait-on retenir comme un motif sérieux de doute le fait que le *-wo* est glosé tantôt par *-no-wo* après un *rentai*, auquel cas on lui attribuera la valeur d'un indice "casuel", et tantôt, toujours après un *rentai*, par *-ga*, ou par *-keredomo*, ou encore par *-no-ni*, auxquels cas il sera censé introduire une nuance "adversative" ou "restrictive," ou bien par *-no-de*, la nuance introduite étant alors jugée de caractère causal, et même par *toki-ni*, pour peu que le commentateur ait l'impression que le *-wo* introduit un rapport "temporel" entre la proposition qu'il affecte et le contexte subséquent.

Point n'est besoin d'ajouter que ces divergences d'interprétation résultent, en dernière analyse, de ce que tel commentateur a attribué à un contexte dans lequel il intervient un *-wo* dont on juge qu'il est conjonctif pour la simple raison qu'on lui refuse la fonction d'indice casuel, un sens différent de celui que tel autre commentateur aura donné à ce même contexte.

La troisième des questions ci-dessus posées est restée absolument sans réponse, du moins dans la mesure où nous sommes informé: la date à partir de laquelle le *-wo* "conjonctif" a ou aurait disparu n'a pas été établie avec précision. On a fait état, à ce propos, de survivances (cf. Korezima, art. cité, p. 372, l. 5-6); mais il est permis de douter que le *-wo* y ait réellement exercé à lui seul un effet indubitablement "conjonctif" ou de caractère "restrictif." Entend-on faire état de ces prétendues survivances, il n'en saute pas moins aux yeux que les causes qui auraient chassé de l'usage le *-wo* "conjonctif" et provoqué son remplacement par d'autres enclitiques demeurent inconnues, — inconnues au point que la disparition dudit *-wo* constitue un mystère.

N.B. Toute tentative de rapprochement entre ce *-wo* et le *-ni*, réputé "conjonctif," qui a survécu, avec un rôle fonctionnel limité, en japonais moderne, reste d'un intérêt secondaire si l'on se propose sérieusement d'expliquer la disparition du *-wo* conjonctif.

\*                    \*                    \*

Notre conclusion sera brève: l'étude du rôle fonctionnel du *-wo*, en japonais historique, n'est qu'amorcée. Il reste à la reprendre d'une façon objective, en s'efforçant de fournir de la nature de ce morphème enclitique une définition synthétique qui reste valable quel que soit le contexte structuré dans lequel il opère.

UNIVERSITÉ DE PARIS, FRANCE

# A NOTE ON THE ACCENTUAL PATTERNS OF THE RUSSIAN NOMINAL DECLENSION\*

MORRIS HALLE

The studies of Russian phonology conducted within the framework of generative grammar, especially those of T.M. Lightner, have demonstrated conclusively the need for recognizing as independent entities in underlying representations, the non-tense [i] [u], i.e., the entities that traditionally have been referred to as reduced vowels or *jers*. These entities never appear directly in the phonetic output, but rather are either lowered to [æ] [ɔ] or are deleted.<sup>1</sup> The lowered *jers* merge with lax [ɔ] [æ] from all other sources and are subject to the same rules as the former. I shall assume, then, that the grammar of Russian includes two rules that have among others the effects of (1) and (2) below.

- $$(1) \begin{bmatrix} +\text{syl} \\ -\text{tense} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{high} \\ +\text{low} \end{bmatrix} / \text{---} [-\text{syl}] \begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{tense} \end{bmatrix}$$
- $$(2) \begin{bmatrix} +\text{syl} \\ -\text{tense} \\ +\text{high} \end{bmatrix} \rightarrow \emptyset$$

Forms such as [bánkə] [bánək] "jar," nom. sg. and gen. pl., respectively, derive from underlying representations in the manner shown in (3).

(3)	bánukā	bánuku	underlying representation
	---	bánoku	rule (1)
	bánkā	bánək	rule (2)
	bánkə	bánək	by other rules not discussed here

From among the many arguments for the introduction of rules (1) and (2) in a synchronic grammar of Russian I shall cite here only the fact that these rules reveal the hidden regularity of certain declensional paradigms often regarded as deviant by grammarians. E.g., Isačenko (1962) treats the declension of the nouns *voš* "louse," *lož* "lie," *rož* "rye," *ljubov* "love" and *cerkov* "church" separately because, these

\* This work was supported in part by the National Institutes of Health (Grant MH-13390-01).

<sup>1</sup> The need for including the *jers* in a morphophonemic transcription of modern Russian has been recognized by students for quite a long time. One can find these *jers* represented by # in the transcriptions of Stankiewicz's important study (1954) and in other Harvard dissertations of that era; cf., e.g., Klagstad (1954); the same device is utilized by Worth (1968).

"verlieren das flüchtige -o- in allen Kasus, mit Ausnahme des (Nom. und—M.H.) Instr. Sing." (p. 124) This, however, is a straightforward consequence of the fact that the desinences of the latter two cases begin with a *jer* (nom. sg.—/i/, instr. sg.—/ijou/) and thus provide an environment in which rule 1 must apply. In all other cases, the desinences begin with a full vowel and rule 1 does not apply to the stem; instead it is deleted by rule 2. This is shown in (4).<sup>2</sup>

(4)	vuši (nom.)	vuši (gen.)	vušijou (instr.)
Rule 1	voši	—	vošijou
Rule 2	voš	vši	vošjou
by rules not given here	voš	vši	vošju

A second important result of recent studies derives from a suggestion made by Jakobson (1965). In discussing the prosodic pattern of Common Slavic, Jakobson proposed that "in any . . . word of two or more syllables, any syllable . . . can carry the phonemic high pitch. Apparently all of the syllables of the same word which precede the phonemic high pitch display redundant high pitch. The rest of the syllables are low pitched." (p. 147) In other words, Jakobson proposes that much as in Japanese the word in Slavic is divided into two parts—an initial high pitched portion and a final low pitched portion. The conventional stress mark, therefore, signalizes the location of the tonal break (*Tonbruch*), which as Isačenko and Schädlich have shown plays such an important role in the perception of stress. It follows logically from this hypothesis that if the vowel conventionally regarded as bearing the stress is deleted, then the stress is shifted one syllable towards the beginning of the word.<sup>3</sup> This can be seen quite graphically in a word such as [sinók] "little son" which has the derivation (5).

(5)	<sup>í</sup> sinúkú	underlying form
	<sup>í</sup> sinókú	Rule 1
	<sup>í</sup> sinók	Rule 2
	sinók	by rules not given here

The accent mark on the vowels in (5) and hereinafter indicates high pitch in line with Jakobson's suggestion quoted above, and the last (i.e., right most) vowel bearing high pitch is the one conventionally said to bear stress. (See also the footnote on p. 174)

Given the two rules (1) and (2) and Jakobson's convention on stress marking it can

<sup>2</sup> A makron over the letter indicates that the vowel is tense, the absence of the makron, that it is lax. [i] is an unrounded high back vowel, symbolized by *jery* in the traditional orthography.

<sup>3</sup> Worth (1968) notes that "the grammar will have to contain a rule to the effect that stressed morphophonemic ' # loses its stress to the left (my emphasis—M.H.) . . . whenever it is not realized as a full vowel" (p. 55). In the system implicit in Worth's study there is no reason to expect that when stressed *yers* are deleted, the stress moves to the left. The deletion of the *jer* could equally well bring about a move of the stress to the right, or, for that matter, result in a stressless word. The convention on the representation of stress proposed by Jakobson that has been outlined above, on the other hand, predicts that when the last high pitched vowel is deleted, stress will automatically move to the left. It, therefore, provides motivation for what otherwise is just another fact about Russian.

be shown that in the substantive declension there are only a small number of distinct accentual patterns which, moreover, reflect reasonably natural subdivisions of the material.<sup>4</sup>

The simplest type of accentual pattern, which I propose to designate here as type I, is the one where the stress remains on the stem in all forms of the singular and plural. E.g.

		Singular	Plural
(6)	N.	rák "crayfish"	ráki
	G., Acc.	ráka	rákov
	D.	ráku	rákam
	Instr.	rákom	rákami
	Prep.	o ráke	o rákax

All three declension classes show this accentual pattern; e.g., it is the pattern of nouns such as *lípa* "linden tree," *bolóto* "swamp," *nít'* "thread."

An obvious question that at present I am unable to answer satisfactorily is what accounts for the placement of the stress on different syllables of the stem. Examination reveals that the majority of stem stressed nouns take the accent either on the initial or on the predesinential syllable. E.g., *úžín* "supper," *góvor* "dialect," *kómnata* "room," *ráduga* "rainbow," *práviló* "rule," etc., have initial stress; *stakán* "glass," *barán* "sheep," *sobáka* "dog," *čerepáxa* "turtle," *kopýto* "horseshoe," etc., have predesinential stress. There are, however, numerous stem stressed nouns with stress on other syllables; e.g., *gostínica* "hotel," *mešóček* "little bag," *urjádnik* "police sergeant," *sovreménnik* "contemporary," *čerémuxa* "wild cherry tree," *soderžátel'* "landlord," etc. It is obvious even from these few examples that the location of stress must in large measure be determined by the nature of the suffixes and other considerations of a morphological character. Their precise nature, however, is not fully known at present.

With certain minor exceptions, to be discussed directly, nouns that are stem stressed maintain the stress on the same vowel throughout the paradigm. Exceptions to this are the nouns *ózero~ozěra* "lake" and *známja~znaměna* "banner," and the polysyllabic stems that form the plural with the special predesinential affix /ij/, as, e.g., *děrevo~derév'ja* "tree." The nouns *ózero* and *známja* have initial stress in the singular and predesinential stress in the plural.<sup>5</sup> The alternations of the *děrevo~derév'ja* type

<sup>4</sup> In the discussion below I disregard the loc. sg. in *-u* and *-i* as well as the marginal plurals of *ljudi* "people" and *deti* "children." I also disregard questions of palatalization, the monophthongization of certain diphthongs and the changes in vowel quality occasioned by various phonological rules. I assume that all these phenomena are somehow properly accounted for in a grammar and can, therefore, be taken for granted.

<sup>5</sup> These alternations are apparently of quite recent origin. According to Kiparsky (1962) pp. 243, 254, they are first attested in the XVIIIth century. Prior to that the plural had desinential stress.

also represent shifts from initial to predesinential stress. Because rule 2 applies to all plural forms of these nouns, the stress naturally appears on the pre-affixal vowel; i.e., /dérévijā/ → /dérévjā/.<sup>6</sup> The number of nouns in this category is quite small; it includes: *derév'ja* "trees," *kolós'ja* "ears (of grain)," *obód'ja* "rims," *polóz'ja* "runners (on sleds)," *kamén'ja* "gems," *povód'ja* "reins (of horse)," *volós'ja* "thick hair," *korén'ja* "culinary herbs," *ugól'ja* "embers."

The stress remains on the same vowel in the underlying representation of the nouns *zaem* "loan" and *naem* "rent". As noted by Stankiewicz (1954) and recently by Worth (1968) these two nouns have in all of their forms the stress on the predesinential vowel.<sup>7</sup> The shift of the stress to the initial syllable in the oblique cases is due to the operation of rule 2. This can readily be seen in the derivations (7) of the nom. sg. and gen. sg. forms:

(7)		zájím <u>u</u>	zájím <u>ā</u>
	Rule 1	záj <u>ě</u> mu	—
	Rule 2	záj <u>ě</u> m	záj <u>m</u> ā
	Rules not given	zaj <u>ó</u> m	zaj <u>ma</u>

The appearance of stem stress in the singular is independent of that in the plural. As a matter of fact, all four logically possible types of stress pattern are amply attested in the declension. In addition to the type I just reviewed which has stem stress in both singular and plural, there are nouns of type II with stem stress in the singular, and desinential stress in the plural; type III with desinential stress in the singular and stem stress in the plural; and type IV with desinential stress in both singular and plural. With a few minor exceptions, which shall be disregarded here, when stress falls on the desinence, it is the first or only vowel of the desinence that receives the stress.

It is, therefore, natural to propose that nouns in Russian are subcategorized with regard to the two features *stem stress sg.* and *stem stress pl.*, as shown in (8).

(8)		stem stress sg.	stem stress pl.
	Type I	+	+
	Type II	+	—
	Type III	—	+
	Type IV	—	—

*Examples.* Type I. Masculine: *rák* "crayfish," *tést* "father in law;" neuter: *kréslo* "chair," *zdánie* "building"; feminine: *lípa* "linden tree," *mýsl* "thought." (Additional examples cited above.) Type II. Masculine: *sád* "garden," *učítel* "teacher"; (also

<sup>6</sup> In forming these plurals with the help of the affix /ij/ some nouns require predesinential stress as in the example cited above, others require desinential stress; *muž'já* "husbands," *druz'já* "friends." The former have in the gen. pl. the desinence /ovu/ or /evu/; the latter (with the exception of *zjat* "son in law") have /u/. This fact explains why we have the accentuation *derév'jev* but *mužěj*.

<sup>7</sup> Stankiewicz's formulation (see *op. cit.*, p. 107n.) is that "the stress falls on the final stressable syllable of the stem;" Worth's formulation is much closer to the one proposed here.

*vólk* "wolf" (see below p. 172)); neuter: *zérkalo* "mirror," *móre* "sea," *vrémja* "time"; feminine: *nóc* "night," (see below p. 172). Type III. Masculine: *líst* "leaf," (very few examples); neuter: *čisló* "number," *kolesó* "wheel," feminine: *travá* "grass," *kolbasá* "sausage," (also *vodá* "water" (see p. 172 below)). Type IV. Masculine: *stól* "table," *býk* "steer," (also *kón* "horse") neuter: *serebró* "silver," *vorovstvó* "theft"; feminine: *xvalá* "praise," *kočergá* "stove poker" (also *ruká* "hand," *bloxá* "flea," (see p. 172 below)).

Further subcategorizations are required to account for the placement of stress on a particular stem vowel and to handle those nouns that retract the stress from desinence to stem in a single case form only (acc. sg. and/or nom. pl.). The first of these subcategorizations will obviously not apply only to nouns of Type IV, for these have the stress on the desinence in all forms. The question of stress location on the stem was briefly raised in the discussion of nouns in Type I (see p. 168 above). It was noted that in the majority of cases stress is placed on either the predesinential or the initial syllable of the word, and the same observation holds for nouns of Type II and III. It has been pointed out to me by Horace G. Lunt, however, that in nouns of Type II which form their nom. pl. with stressed *-á* there are no instances of predesinential stress in the sg.; instead, one finds either initial stress as in *górod* "city", or nonpredesinential stress as in *učítel* "teacher." This observation accounts for an asymmetry between the nouns of Type II and Type III. As noted by Worth (1968) stress shifts exactly paralleling those of (7) are found also in nouns of Type III. Thus, parallel to the apparent stress shift in *zaēm záima* (cf. (7)), we find in Type III noun alternations such as *sestěr sěstry* "sisters," or *koléc kól'ca* "rings," *jaíc jájca* "eggs." These alternations are accounted for by assuming predesinential stress in the underlying representations as shown in (9) and (10).

(9)	séstíru	kólicu	jájicu
(10)	séstírĩ	kólicā	jájicā

As in the case of *zaem* (cf. (7)) rule 1 lowers the predesinential high vowels only in (9), thereby maintaining the stress on that syllable. Since the predesinential *jers* are not lowered in (10), they are deleted by rule 2, and the stress is shifted automatically to the preceding syllable. Since, as noted above, nouns of Type II do not include examples where stress falls on the predesinential syllable it is not to be expected that parallel alternations will be found in nouns of this class, and this fact accounts for the asymmetry referred to above.

In the nouns discussed up to this point the stress did not shift from one syllable within the singular or plural paradigm, except in cases where the shift was due to the operation of rule (2). There are nouns, however, where the stress is retracted from desinence to stem within the singular or plural paradigm. Such shifts occur only in acc. sg. forms with the *u*-desinence and in nom. pl. forms with the *i/y*-desinence.

This retraction of the stress to the stem can logically affect only nouns that do *not* have

stem stress. Hence nouns of type I are excluded here in principle. Nouns of type II can be subject to retraction only in the singular, whereas nouns of type III can be subject to retraction only in the plural. Finally, nouns of type IV can be subject to retraction in either or both the singular and plural.

Examples of stress retraction in nouns of types II and III are to be found in (11).

(11)	<i>nosý</i>	<i>vólki</i>	<i>travá</i>	<i>vodá</i>
	<i>nosóv</i>	<i>volkóv</i>	<i>travý</i>	<i>vodý</i>
	<i>nosám</i>	<i>volkám</i>	<i>travé</i>	<i>vodé</i>
	<i>nosámi</i>	<i>volkámi</i>	<i>travú</i>	<i>vódu</i>
	<i>o nosáx</i>	<i>o volkáx</i>	<i>travój</i>	<i>vodój</i>
			<i>o travé</i>	<i>o vodé</i>

It was noted above that nouns of type II do not generally include feminines. The exception to this are nouns of the type *noč* "night" which have stem stress in the singular and in the nom. pl., but desinential stress in the oblique cases of the plural. The accentual pattern of *noč* is, therefore, like that of *volk* (cf. (11)).

Examples of stress retraction in nouns of type IV are:

(12)	<i>kočergá</i>	<i>ruká</i>	<i>bloxá</i>
	<i>kočergí</i>	<i>rukí</i>	<i>bloxí</i>
	<i>kočergé</i>	<i>ruké</i>	<i>bloxé</i>
	<i>kočergú</i>	<i>ríku</i>	<i>bloxú</i>
	<i>kočergój</i>	<i>rukój</i>	<i>bloxój</i>
	<i>o kočergé</i>	<i>o ruké</i>	<i>o bloxé</i>
	<i>kočergí</i>	<i>ríki</i>	<i>blóxi</i>
	<i>koečrěg<sup>8</sup></i>	<i>ruk</i>	<i>blóx</i>
	<i>kočergám</i>	<i>rukám</i>	<i>bloxám</i>
	<i>kočergámi</i>	<i>rukámi</i>	<i>bloxámi</i>
	<i>o kočergáx</i>	<i>o rukáx</i>	<i>o bloxáx</i>

We note that of the logically possible four subtypes only three are attested; there is no noun that has desinential stress in all forms except in the acc. sg. ending in *-u*. This well known fact of Russian grammar will have to be captured by a special redundancy rule.

To reflect the facts just outlined I propose to introduce two additional morphological

<sup>8</sup> I have chosen the word *kočerga* "stove poker" because its accentuation is discussed in M. Zoščenko's well-known story "Kočerga" *Rasskazy i povesti* 1923-56 (Sovetskij pisatel', Leningrad, 1958), pp. 157-161. In the story, the preferred form of the gen. pl. is given as *kočerg*, although the form cited above is qualified as being "also admissible." Both the dictionary of Ušakov (1935) and that of Avanesov and Ožegov (1955) list, however, only the latter form. I have followed these authorities because of the weight of their academic credentials. Formally the dispute revolves around the question whether the underlying form of the stem is /kočerig/ or /kočerg/. Empirically, as Zoščenko himself remarks, it is rather a question of how soon technological progress will make stove poker obsolete.



features: *stress retraction sg.* and *stress retraction pl.* As already noted, the former feature can be distinctive only with regard to nouns that are [–stem stress sg.], i.e., types II and IV, while *stress retraction pl.* can be distinctive only with regard to nouns that are [–stem stress pl.], i.e., types III and IV. I shall assume that nouns of type I and III are redundantly specified as [–stress retraction sg.] and nouns of type I and II are redundantly specified as [–stress retraction pl.].

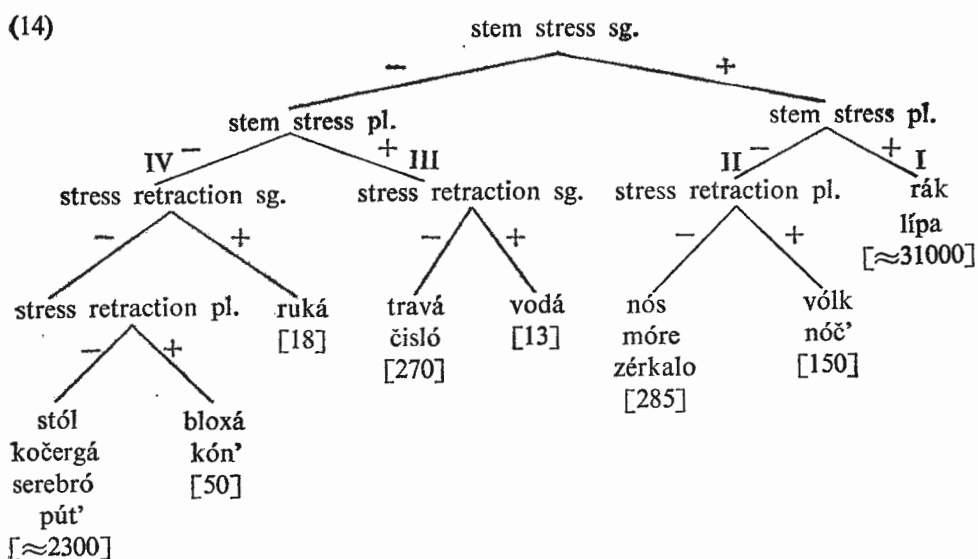
While the features *stress retraction sg.* and *stress retraction pl.* combine freely with nouns belonging to the category [–stem stress sg.] or [–stem stress pl.] respectively, they are subject to the restriction that in nouns of type IV [+stress retraction sg.] implies [+stress retraction pl.]. More formally this might be expressed by a redundancy rule (13).

$$(13) \begin{bmatrix} \text{–stem stress sg.} \\ \text{–stem stress pl.} \\ \text{+stress retraction sg.} \end{bmatrix} \rightarrow \text{+stress retraction pl.}$$

In sum, we have shown that the accentual patterns of the declensional paradigms of Russian require a categorization with regard to four binary features. The feature *stress retraction sg.* can not affect nouns that are [+stem stress sg.] and the feature *stress retraction pl.* cannot affect nouns that are [+stem stress pl.]. This means that no more than nine categories can be created with the help of the four features proposed. One of these nine categories however is ruled out by virtue of the redundancy rule (13). Russian nouns must, therefore, be subcategorized into eight classes in order to account for the accentual patterns found in the declension. This subcategorization is shown in (14).\*

---

\* Note incidentally that if Jakobson's proposal is adopted for standard Serbo-Croatian, one difference between Serbo-Croatian and Russian would be that in the former it is not the last, but rather the one but last vowel bearing high pitch that is conventionally said to bear the stress.



Figures in parentheses indicate the total number of nouns of each type in the language. They are taken from Zaliznjak (1967) pp. 172-3.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, U. S. A.

#### REFERENCES

- A. Isačenko (1962) *Die russische Sprache der Gegenwart* (Halle, 1962).
- A. Isačenko and H.J. Schädlich, (1963) *Erzeugung künstlicher deutscher Satzintonationen mit zwei kontrastierenden Tonstufen*= *Monatsberichte der Deutschen Akademie der Wissenschaften zu Berlin*, Heft 6, 1963.
- V. Kiparsky (1962) *Der Wortakzent der russischen Schriftsprache* (Heidelberg, 1962).
- H.L. Klagstad (1954) *Vowel-Zero Alternations in Contemporary Standard Russian* (Unpublished Ph.D. dissertation, Harvard University, Cambridge, 1954).
- R. Jakobson (1965) "Information and Redundancy in the Common Slavic Prosodic Pattern," *Symbolae Linguisticae in Honorem Georgii Kuryłowicz* (Wrocław, Warszawa, Krakow, 1965), pp. 145-151.
- T.M. Lightner (1965) *Segmental Phonology of Modern Standard Russian* (Unpublished Ph. D. dissertation, M.I.T., Cambridge, 1965).
- E. Stankiewicz (1954) *Declension and Gradation of Substantives in Contemporary Standard Russian* (Unpublished Ph.D. dissertation, Harvard University, Cambridge, 1954).
- D. S. Worth (1968) "Notes on Russian Stress, 3: *naem* and *zaem*," *The Slavic and East European Journal*, 12, 53-58 (1968).
- A.A. Zaliznjak (1967) *Russkoe imennoe slovoizmenenie* (Moscow, 1967).

# A PROPOS DES NOMS DE TROIS CLANS DES ORDOS

LOUIS HAMBIS

Parmi les noms de clan dont le R.P. Mostaert a donné la liste dans une de ses publications<sup>1</sup> ainsi que dans son *Dictionnaire ordos*<sup>2</sup>, trois d'entre eux donnent lieu à des observations curieuses qui peuvent contribuer à montrer comment les anciennes tribus mongoles de l'époque gengiskhanide ont connu un destin commun dans leur dispersion, qu'il s'agisse de l'installation d'éléments mongols dans l'Ouest de l'Asie centrale et en Iran que dans le secteur oriental, en particulier dans la boucle du Fleuve Jaune où un contingent important s'installa au XV<sup>e</sup> siècle.

En effet, dans ses *Ordosica*, le P. Mostaert mentionne les *Baganas* sous le n° 48, les *Böχ<sup>h</sup>χös* et les *Būχas* sous le n° 65 et les *t'ölöngūs* sous le n° 169; trois notes portant les mêmes numéros disent ceci:

1) "*bag-anas*. Proprement pluriel de *bag,ana*, "chevron" (mo. *baγana*). Les *bag,anas* sont mentionnés dans le texte de Sanang Setšen discuté plus haut";

2) "*böχ<sup>h</sup>χös*. Nom de clan que j'ai recueilli chez les Mongols de la bannière de Khangin. Proprement un pluriel de *böχ<sup>h</sup>χö* 'lutteur, athlète' (cf. mo. *böke*, id.), et *būχas*, 'les taureaux,' *χara būχas*, 'les taureaux noirs,' *šara būχas*, 'les taureaux jaunes' (cf. mo. *buqa* "taureau"). Les *Buqa* sont mentionnés ensemble avec les *Solongoγos* par l'*Altan tobči* (p. 28) et par Sanang Setšen (édit. de Schmidt, p. 76). Ce dernier mentionne encore à un autre endroit (édition Schmidt, p. 76) les *Buqas* en compagnie des *Dalad*, *ügüsin* et *urad*, tous des clans des Ordos";

3) "*t'ölöngūs*. Le nom de clan qui dans l'édition de Schmidt de Sanang Setšen (p. 154) est écrit *teylenggüd*, est transcrit dans le *Moung kou yuan liou* (v. f. 15, recto) par 特凌古斯 *teleggūs*. Cette dernière leçon est confirmée par notre manuscrit. Le nom de clan *telenggūs* est probablement identique à notre *t'ölöngūs*. *Telenggūs* se rencontre aussi comme nom d'un clan oirat et comme nom d'un des clans qui forment à présent les bannières d'Aukhan et Naiman (confédération de juu uda. Cf. B. Vladimircov, citant l'historien Gombojab. Mongol'skoe ongniγud, etc, p. 223)."

Telles sont les informations que le P. Mostaert possédait en 1934 d'après son enquête faite parmi les Ordos et d'après ses dépouillements. Je ne sais s'il a fait d'autres recherches ou si certains mongolisants se sont intéressés à cette question, mais il semble possible d'utiliser une série de textes de l'époque des Ming, qui permettent de les

<sup>1</sup> *Ordosica*. "Les noms de clan chez les Mongols Ordos," *Bull. n° 9 of the Catholic University of Peking*, Nov. 1934, p. 24-25, 37-38 et 45-46.

<sup>2</sup> P. 43: *bag,anas*; *bag,ana*, "chevron," mo. *baγana*; p. 86: *böχ<sup>h</sup>χös*, cf. p. 85: *böχ<sup>h</sup>χö*, et p. 92: *būχas*; p. 674: *T'ölöngös/T'ölöngūs*.

rattacher à des groupements connus à l'époque mongole.

En effet, tous les textes des Ming qui peuvent intervenir dans la discussion figurent dans une période allant de 1544 à 1612 et sont d'un grand intérêt, car c'est dans la seconde moitié du XV<sup>e</sup> que les Mongols connus plus tard sous le nom de Ordos s'établirent dans la boucle du Fleuve Jaune (cf. A. Mostaert, *Erdeni-yin Tobči, Mongolian Chronicle by Saγang Sečen*, Cambridge, Mass., 1956, t. I, p. 2). D'après le P. Mostaert, "une tradition ordos dit que ces Mongols étaient originaires de la Mongolie occidentale et que leur ancien habitat était les montagnes Altaï et Qangrai"; or, il semble bien que les noms des trois clans cités plus haut viennent le confirmer.

Parmi les sources chinoises qui mentionnent des clans dont les noms semblent correspondre à ceux cités par le P. Mostaert, le 萬歷武功錄 *Wan-li Wou-kong lou*,<sup>3</sup> dont la préface est de 1612, est le texte le plus tardif; il donne (7, 24) une liste de noms de tribus et de clans parmi lesquels figurent les 哮合斯 Po-ho-sseu, les 偶甚 Ngeou-chen, les 叭哈思納 Pa-ha-sseu-na et les 打郎 Ta-lang, en ne fournissant pas une date précise. Le 廣輿記 *Kouang-yu-ki*<sup>4</sup>, dont la préface est de 1600, mentionne (24, 21 a) parmi les Ordos, les 哮合斯 Pei-ho-sseu, les Ngeou-chen, les Pa-ha-sseu-na et les Ta-lang. Le 殊域周咨錄 *Chou-yu-tcheou tseu-lou*<sup>5</sup> (22, 11 b) dont les préfaces datent de 1574 et de 1583, cite après la 1ère *tcheng-tō* les 哮合斯 Po-ho-sseu, les Ngeou-chen, les 拔哈思納 Pa-ha-sseu-na et les Ta-lang. De leur côté, le 國朝典會 *Kouo-tch'ao tien-houei*<sup>6</sup> (171, 39 a-b) qui fut rédigé pendant la période *long-k'ing* (1567-1572) et le 皇明詠化類編 *Houang Ming yong-houa lei-pien*<sup>7</sup> (129, 26 a) dont la préface est de 1568 et qui présente un texte abrégé, donnent, le premier sous la 13<sup>e</sup> année *tcheng-tō*, 7<sup>e</sup> mois (1518), le second sous une date imprécise, des listes où figurent les 哮合斯(斯) Po-ho-sseu, les Ngeou-chen, les Pa-ha-sseu-na et les Ta-lang. Le 皇輿考 *Houang-yu k'ao*<sup>8</sup> (12, 33 a) dont la préface date de 1557, cite les mêmes clans: 哮合斯 Pei-ho-sseu, Ngeou-chen, Pa-ha-sseu-na et Ta-lang sans indiquer de date. Enfin deux œuvres plus anciennes, le 邊政考 *Pien-tch'eng k'ao* de 1547<sup>9</sup> et le 皇明九邊考 *Houang Ming k'ieou-pien k'ao*<sup>10</sup> dont les préfaces sont de 1541 et 1542 et la postface de 1544, mentionnent, le premier sur la carte générale (1, 3 a) et sur la carte de Yu-lin (2, 7 a) les 哮合斯 Po-ho-sseu, les Pa-ha-sseu-na et les Ta-lang, le second (7, 9 a) les 哮合斯 Po-ho-sseu, les Pa-ha-sseu-na et les Ta-lang. Toutes les citations postérieures à 1550 sont les mêmes et ont été empruntées avec diverses modifications aux deux ouvrages les plus anciens.

Le texte du *Houang Ming k'ieou-pien k'ao* (7, 8 b-9 b) est repris à deux reprises par le *Pien-tch'eng k'ao*; il contient une notice intitulée: 邊夷考 *Pien-yi k'ao* qui est

<sup>3</sup> Ed. 國學文庫 Kouo-hiue wen-kou, Pékin, 1935-1936.

<sup>4</sup> Réédition de 1674 (?) (Bibl. Inst. Hautes Etudes Chinoises, G. XXVI-25).

<sup>5</sup> Ed. de la Bibliothèque du Palais de Pékin, 1930.

<sup>6</sup> Ed. de T'ai-pei, 53<sup>e</sup> année République chinoise (1964).

<sup>7</sup> Ed. de T'ai-pei, 54<sup>e</sup> année République chinoise (1965).

<sup>8</sup> Ed. 玄覽堂從書 *Huian-lan-t'ang ts'ong-chou*.

<sup>9</sup> Ed. du *Kouo-li Pei-p'ing t'ou-chou-kouan chan-pen ts'ong-chou*.

<sup>10</sup> id.

passée sous une forme abrégée comme légende des cartes figurant dans le second texte. La traduction de cette notice est la suivante:

“La longueur du Ho-t’ao d’Est en Ouest est de 1800 *li* et du Nord au Sud d’un peu plus de mille *li*. . . A partir de Yu-lin, à l’extérieur c’est la commanderie du Chouo-fang des Han, qui est précisément le pays <situé> au sud du Fleuve, que les Ts’in prirent aux Hiong-nou.

La septième année *tch’eng-houa* (1468) les Lou [= Mongols] commencèrent à pénétrer dans la Boucle du Fleuve pour piller et voler, et aussitôt en sortirent, n’osant pas y rester pour faire paître leurs troupeaux. La 13<sup>e</sup> année *hong-tche* (1500), un chef des Lou nommé 火箭 Houo-chai (\*Qosai) entreprit en grand de pénétrer dans la Boucle du Fleuve et commença d’y demeurer pour faire paître ses troupeaux. Pendant la période *tcheng-tö* (1506–1520), désormais trois tribus, les 應紹不 Ying-chao-pou, les 阿兒禿斯 O-eul-t’ou-sseu et les 滿官噴 Man-kouan-tchen entrèrent dans la Boucle <du Fleuve>.

La tribu Ying-chao-pou y installa ses campements au nombre de dix: <ceux> des 阿速 A-sou, des 阿剌噴 A-la-tchen, des 舍奴郎 Chö-nou-lang, des 孛來 Po-lai, des 當喇兒罕 Tang-la-eul-han, des 失保噴 Che-pao-tchen, des 叭兒厥 Pa-eul-ngao, des 荒花旦 Houang-houa-tan, des 奴母噴 Nou-wou-tchen et des 塔不乃麻 T’a-pou-nai-ma. Autrefois ils dépendaient du *t’ai-che* 亦不剌 Yi-pou-la; ensuite ils se dispersèrent et formèrent seulement une seule tribu, celle des 哈麻[cor. 喇] 賁 Ha-[la]-tchen.

La tribu O-eul-t’ou-sseu y installa ses campements au nombre de sept; autrefois elle dépendait aussi de Yi-pou-la, mais maintenant le grand chef 吉囊 Ki-nang la gouverne et installa ses campements au nombre de quatre: <ceux> des 孛合斯 Po-ho-sseu, des 偶甚 Ngeou-chen, des 叭哈思納 Pa-ha-sseu-na et des 打郎 Ta-lang.

La tribu Man-kouan-tchen y installa ses campements au nombre de huit; jadis elle dépendait de \*Qosai, mais maintenant le grand chef 俺荅阿不孩 Ngan-ta A-pou-hai la gouverne et a installé ses campements au nombre de six: <ceux> des 多羅土悶 To-lo T’ou-men, des 畏吾兒 Wei-wou-eul, des 兀甚 Wou-chen, des 叭要 Pa-yao, des 兀魯 Wou-lou, des 土吉喇 T’ou-ki-la.

L’armée <que peuvent constituer> les trois tribus est en tout de soixante-dix mille hommes; tous demeurent dans la Boucle <du Fleuve>. De temps en temps les bandits [= les Mongols] <attaquent> la frontière à 綏 Souei <-tö>, à 寧 Ning <-hia>, à 甘 Kan <-tcheou>, à 固 Kou <-yuan>, à 宣 Siuan <-houa> et à 大 Ta <-t’ong>.”

Il ne s’agit pas de commenter ici la totalité de ce texte, bien qu’il soit d’un grand intérêt, mais seulement d’examiner les noms de trois des clans des Ordos: les Po- <ha>-sseu, les Pa-ha-sseu-na et les Ta-lang. Si l’on en rapproche les noms de clan recueillis par le P. Mostaert, les Po- <ha>-sseu correspondraient aux *byzas*, les Pa-ha-sseu-na aux *baganas*, et les Ta-lang aux *T’ölöngüis/T’ölöngüs*, ce qui ne nous apprend rien de bien nouveau, si ce n’est que ces clans existaient au XVI<sup>e</sup> siècle et sans doute un peu plus tôt. La question prend un autre aspect si nous tentons de remonter à l’époque mongole.

En effet l’*Histoire secrète des Mongols* au § 239 donne deux listes des peuples de la Sibérie soumis par Jöçi: parmi ceux-ci les Qabqanas figurent dans une première liste sous la transcription 中合<sub>ト</sub>中合納思 Ha-pou-ha-na-sseu,<sup>11</sup> tandis que les Tuqas et les Tānlāk [à lire très probablement Tālāng] se trouvent sur une seconde liste sous les transcriptions 禿中合思 T’ou-ha-sseu et 田列克 T’ien-lie-k’o.<sup>12</sup>

<sup>11</sup> Ed. du *Sseu-pou ts’ong-kan*, ch. 10, 14 b<sup>3</sup>.

<sup>12</sup> id., ch. 10, 15 a<sup>4</sup>.

J'ai déjà eu l'occasion de parler des Qabqanas et des Tälänggüt;<sup>13</sup> restent les Tuqas dont il semble que c'est la seule mention dans les textes chinois.<sup>14</sup> Il est possible de penser que le caractère 秃 *t'ou* pourrait être erroné, mais aucun caractère transcrivant habituellement \**bu*- ne paraît convenir, ou que le nom des Tuqas ne répondant à ma connaissance à aucun nom mongol satisfaisant, subit une transformation par étymologie populaire dans les siècles qui suivirent pour aboutir à Buqas, "les Taureaux."

Dans ces conditions il faudrait admettre que ces tribus ont été dissociées en partie ou en totalité à l'époque mongole. En effet, en ce qui concerne par exemple les Tälänggüt, nous constatons qu'à l'époque mongole ils étaient installés dans la région du moyen Iénisseï et étaient alors nommés conjointement avec les Qabqanas et les Tuqas. Dans les siècles qui précèdent les événements rapportés par le *Houang Ming k'ieou-pien k'ao*, le nom des Tälänggüt apparaît dans les textes mongols à l'époque de l'hégémonie des Oirat; il semble alors que le rôle du personnage mentionné sous le nom de "Abdula-sācān des Tälänggüt" implique que ceux-ci — ou une partie de ceux-ci, faisaient partie des tribus soumises aux Oirat et avaient quitté leur ancien habitat; par contre la mention parmi les nouveaux *otok*, "tribus sous la dépendance directe du souverain," de l'empire Dzoungar dans la notice écrite par l'empereur K'ien-long (Pelliot, *Notes critiques d'Histoire Kalmouke*, p. 12), des 特楞古特 T'ö-leng-kou-t'ö (Tälänggüt) prouve qu'une partie d'entre eux était demeuré dans la région située sur le moyen Iénisseï à cette époque.

Nous ne pouvons pas, semble-t-il, relever de mention après l'époque mongole des Tuqas et des Qabqanas, ni avant le texte du *Houang Ming k'ieou-pien k'ao*, que ce soit dans les textes chinois ou mongols, ni après la période des Ming. Nous pouvons seulement constater que trois clans sont nommés parmi les Ordos au XVI<sup>e</sup> siècle et sans plus, et que leurs noms se sont conservés jusqu'à notre époque comme en témoigne le P. Mostaert, mais sous des formes qui peuvent être rapprochées des noms de ceux de l'époque mongole.

Si le nom des Tälänggüt apparaît au XVI<sup>e</sup> siècle sous une forme aphérétique du même type que l'on rencontre dans l'*Histoire secrète des Mongols*, il est également remarquable de constater qu'en même temps les deux autres clans sont cités avec un quatrième comme constituant la tribu des Ordos. Or, nous constatons que les noms modernes des baganas et des Bö<sup>15</sup> correspondent à diverses transcriptions datant du XVI<sup>e</sup> siècle: Pa-ha-sseu-na pour les premiers, en admettant que la transcription demande à être corrigée en Pa-ha-na-sseu (\*Baqanas); Po-ho-sseu, Pei-ho-sseu pour

<sup>13</sup> "Notes sur trois tribus de l'Yénisseï supérieur: les Us, Qaqahas et Talangut," *JA*, 1957, pp. 30-36.

<sup>14</sup> Le nom des Tugas est très vraisemblablement un pluriel en -s d'un mot \**tuqa* jusqu'à présent inexpliqué. Aristov, "Zamétki ob etničeskom sostavé tjurkskikh plemen i narodnostei," in *Živaya Starina*, 1896, p. 354, 356, mentionne un clan qazaq appelé Toghas dont le nom peut être de même origine. Le *Yuan che* mentionne un personnage appelé 秃哈帖木兒 T'ou-ha T'ie-mou-eul (\*Tuqa-Tämür) qui fut nommé le 6<sup>e</sup> mois de la 3<sup>e</sup> *t'ai-t'ing* (juin-juillet 1326) 四川行省平章政事 Sseu-tch'ouan hing-cheng *p'ing-tchang-tcheng-che*; enfin le nom apparaît peut-être sous une forme composée dans le nom de 秃哈 T'ou T'ou-ha (\*Tu[q]-tuqa) tant dans le *Yuan che* que dans les sources littéraires de l'époque mongole.

les seconds, Po-ho-sseu pouvant être restitué en \*Boqos et Pei-ho-sseu en \*Buqos, à moins que le caractère 合 *ho* doive être corrigé en 哈 *ha*, auquel cas nous aurions des restitutions de l'ordre de \*Boqas et de \*Buqas.

En ce qui concerne le nom des \*Baqanas, il n'est pas impossible d'envisager une correction de 叭哈思納 Pa-ha-sseu-na en 哈叭哈納思 Ha-pa-ha-na-sseu (Qabqanas), ce nom pouvant être passé chez les Mongols sous la forme où elle apparaît dans les textes à partir du XVI<sup>e</sup> siècle par étymologie populaire. Le nom de Qabqanas ne devait plus avoir de sens dans le monde mongol oriental alors isolé des Turcs, où *qapqan* (>mo. *qabqa*) signifie "piège (à gibier)"; le nom donné aux Qabqanas à cause de la forme présentée par le territoire qu'ils occupaient à l'époque mongole (cf. mon article, *JA*, 1957, p. 31) ne pouvait plus se comprendre, les Qabqanas l'ayant vraisemblablement quitté pour une raison qui nous échappe, si bien que de "les Sacs," ils devinrent chez les Mongols orientaux "les Chevrons."

De même les Tuqas dont le nom est encore inexpliqué devinrent par étymologie populaire des \*Boqas ou des \*Buqas au XVI<sup>e</sup> siècle, noms qui ont dû aboutir selon toute vraisemblance chez les Ordos bö'χös et бұғас.

La raison essentielle de cette explication repose sur le fait qu'à l'époque mongole les noms des Tälänggüt, des Tuqas et des Qabqanas se rencontrent dans des listes des peuples de Sibérie, qu'ils apparaissent tous les trois au XVI<sup>e</sup> siècle comme les constituants de la tribu des Ordos et qu'enfin ils ont été recueillis quatre siècles plus tard en tant que clans des Ordos par le P. Mostaert.

# **EINIGE JAHRHUNDERTE EUROPÄISCHEN KULTURERBES**

**L. L. HAMMERICH**

Am Anfang des 9. Jahrhunderts kam ein Kauffahrteischiff von England nach Frankreich. Die Kaufleute löschten ihre Waren am Strande, errichteten Verkaufsstände, schichteten die Waren auf und begannen sie anzupreisen.

Zwei Männer standen abseits; sie hatten keine Waren, und sie sahen seltsam aus: vorn war der Kopf geschoren von Ohr zu Ohr, nach hinten stand eine steife Haarsträhne. Sie waren barfüssig, im kurzen Kilt. Ein Gebetbuch, eine Wachstafel nebst Griffel, sowie eine kleine viereckige Glocke waren am Gürtel befestigt. Stumm standen sie da, bis sich eine kleine Schar um sie versammelt hatte. Dann klingelten sie mit den Glöcklein und begannen zu rufen: "Wenn jemand Weisheit wünscht, dann komme er zu uns, denn wir bieten sie feil."

Der König und Kaiser Karl der Grosse hörte von den seltsamen Kaufleuten, liess sie zu sich rufen und fragte, ob sie wirklich Weisheit feilzubieten hätten.— "Ja, das haben wir, und wir sind bereit, sie denjenigen zu überlassen, die im Namen des Herrn in rechter Weise darum bitten."—Der Kaiser fragte, was sie für ihre Weisheit haben sollten.— "Eine geeignete Stelle für den Unterricht, aufgeschlossene Gemüter uns anzuhören und, in dem Ausmasse, wie es den Gästen des Staubes unentbehrlich ist, Nahrung und Kleider." Der Kaiser gab es ihnen; später wurde Clemens, der eine von ihnen, Vorsteher der Hofschule in Aachen, während Dungal, der andere, die Universität in Pavia gründete, die im Jahre 1923 ihr 1100 jähriges Jubiläum feiern konnte.

Irland war die Festung antiker Kultur, die sich gegen alle Stürme der Völkerwanderungen in Westeuropa halten können. Hier war das bewahrt, was im Westen übrig war von griechischer Kenntnis. Bis die Araber im 7. Jahrhundert die südlichen und westlichen Küsten des Mittelmeers eroberten und damit die schäumende schaukelnde Hauptstrasse der Antike absperreten, hielt die irische Mönchskirche—über Bordeaux und Lerins (bei Marseille)—die direkte Verbindung mit der gleichartigen Christenheit in Ägypten aufrecht. Als Angeln, Sachsen und Jüten im 5. Jahrhundert England eroberten, waren Gelehrte nicht nur nach Gallien, sondern auch nach Irland geflohen. Als dann Gallien im 6.-7. Jahrhundert an der Reihe war und den barbarischen Franken erlag, wurde auch ein Teil dieser Gelehrsamkeit nach Irland überführt: die Schule von Burdigala erstand wieder als Bordgals in Meath.



Aber gegen das Jahr 800 war es vorbei. Die Wikinger überfielen Irland, teils unmittelbar aus Norwegen, teils über England aus Dänemark kommend. Nun ging der Strom der Gelehrten ostwärts: nach York in Nordengland (wo noch kein *Danelag*, "nordisches Rechtsgebiet," gefestigt war) und—wie wir hörten—nach Frankreich und dessen Nachbargebieten, teils zu den alten irischen Klöstern in Luxeuil, St. Gallen, Bobbio, teils zu neuen Pflanzstätten wie Echternach und Fulda.

Das war möglich, weil das neue Kaiserreich (Karls Krönung fand im Jahre 800 in Rom statt) eine Stabilisierung bedeutet hatte. Das Reich der Langobarden war geschlagen und dem deutsch-römischen Reich einverleibt worden: bis 1859 hatte Norditalien nördlichen, südostdeutsches Gebiet breiten italienischen Anschluss. Der Islam war zum Stehen gebracht. Es herrschte Friede und bestand diplomatische Verbindung. Gaben wurden ausgetauscht—wie der Elefant, den Harûn-ar-Raschid von Bagdad nach Aachen sandte. Das neugegründete Hamburg hinderte die Slawen daran, bis zur Nordsee vorzudringen (und Nordländer und Deutsche zu trennen), und es war die Basis der Elbgrnze, die die slawischen Völker eigentlich nie überschritten haben. Es entstanden vielmehr weiter nach Osten Markgrafschaften, Grenzreiche—von denen Österreich das wichtigste ist—westliche Bastionen, die erst 1945 entwaffnet wurden.

Am Anfang des 8. Jahrhunderts schrieb und las man, Latein natürlich, in Italien (÷ Sizilien), Frankreich nördlich der Garonne, im Moselland, in einem Teil der Niederlande, in England, Wales und Irland. Das waren die Reste von West-Rom.

Der grösste Teil von der Pyrenäenhalbinsel und von Südwestfrankreich war den Arabern preisgegeben, Deutschland und der Norden waren, wie auch die Länder der Slawen und der Ungarn, bis zum Adriatischen Meer, noch nicht zum Christentum bekehrt. Nur das südöstlichste Europa gehörte dem griechischen Kaiser.

Vom 8. bis zum 12. Jahrhundert wurde dann christliche Schulweisheit von den Alpen bis zum Nordkap und über die Meere bis nach Island und Grönland hin verbreitet. Das ist die neue Macht Roms, die sich auch bis zum Weichselland, bis nach Böhmen, dem Donaubecken, dem Westbalkan erstreckt—teilweise auf Kosten von Byzanz. Auf eigentümlichen Wegen wird der Höhepunkt im Jahre 1204 durch die Errichtung des lateinischen Königtums in Konstantinopel erreicht. Wenn es sich hätte halten können, wäre Russland westeuropäisch geworden.

Dies war das lateinische Mittelalter, die Machtfülle und die magische Hilfe des Christentums im Westen. Darf man zu sagen wagen, dass der Keim der Entwicklung die Gleichheit vor Gott gewesen sei, und das grosse Gebot der Barmherzigkeit, das allmählich langsam die für den Bestand der alten Gemeinschaften notwendigen Sklaven abschaffte?

Es gibt überraschende Wirkungen: man bekommt alphabetische Wörterbücher, wenn man nicht mehr zweisprachige Sklaven hat. Wenn billige Ruderer verschwinden, entstehen schwere, Mannschaften ersparende Schiffstypen, Koggen, die dann nicht

mehr über die Weltmeere fahren können.

Die göttliche Basis der Barmherzigkeit, die Versöhnung, wird von einer Kirche vermittelt, deren Aufbau sich nach dem Feudalwesen richtet, dessen Gesellschaftsstruktur im übrigen von der Rücksichtnahme auf die Sicherheit des Staates bestimmt ist. Kirche und Staat durchdringen und bekämpfen sich gegenseitig.

Der Bildungsgehalt ist in der Architektur und in den bildenden Künsten, auch in der Literatur, ein Mosaik von Brocken antiker (lateinischer) Bildung, das teilweise an heimatverbundenem Material geformt ist. Die christliche Philosophie der Zeit lebt von Augustin und von Boethius. Ein ganz dünner Strom platonischer Mystik wird vom Griechischen her in der karolingischen Zeit von einem Iren, Johannes Scotus Eriugena, vermittelt.

Im 12. Jahrhundert knospt Neues. Paris bricht hervor, mit der Schule von Chartres, mit Abailard. Es sind selbständige Gedanken, eine neue Befruchtung durch die Antike erfolgt. Mehrere Schriften des Aristoteles werden aus dem Semitischen, dann aus dem Griechischen (Wilhelm von Moerbeke, 13. Jh.) ins Lateinische übersetzt. Die Wissenschaft beginnt, hinter die Spätantike zurückzureichen. Die Scholastik erreicht ihre höchste Blüte im 13. und 14. Jahrhundert mit Thomas Aquinas und Occam. Auf der Annahme eines Parallelismus zwischen dem Wesen des allgegenwärtigen, allwissenden Gottes und einerseits der Welt, andererseits dem Menschen wird die Erkenntnistheorie aufgebaut. Seelenlehre und Gotteslehre beleuchten sich gegenseitig: dem Dreiklang Gedächtnis (*memoria*)—Gedanke (*cogitatio*)—Wille (*caritas*) entspricht die Dreieinigkeit Vater—Sohn—Heiliger Geist.<sup>1</sup> Man dringt immer tiefer in die Erkenntnis ein, immer höher in die Abstraktion, bis bei Eckehardt und andern Mystikern des 14.–15. Jh's der Anteil des Menschen am Wesen Gottes das einzig Entscheidende wird: Gottes Sein enthüllt sich als ein All, das nur als ein Nichts angeschaut werden kann. Die Gotteserkenntnis vervollkommnet sich und hebt sich dadurch selbst auf. Die Voraussetzung dafür, dass neues Material neue Erkenntnis bringen könnte, ist erreicht.

Was bedingt, dass im 12. Jh. Neues entsteht?—Vor allem eine Neuwertung der Frau.

Dem alten Orient war die Frau einem kostbaren Gegenstand bedenklich nahe. "Eine gute Frau ist mehr wert als ein Ochse von Gold," hiess es in Babylon (die als Wertmesser dienende goldene Ochsenstatue konnte so klein sein wie eine Walnuss). In den antiken Kerngebieten Hellas und Rom wie auch überhaupt in den Mittelmeerlandern war die Stellung der Frau nicht imponierend: sie war in hohem Grade auf die Bedürfnisse des Mannes abgestimmt.

Bei den Germanen ist es anders. Tacitus findet im 1. Jh., dass für sie die Frau ein

<sup>1</sup> Das hatten die Iren bereits inne, und die Nordländer ahmten es ihnen seltsam nach: der thronende Odin zwischen den Raben *Hygginn* (*memoria*) und *Muninn* (*caritas*) ist wie der Weisse Christ zwischen dem Vater und dem Heiligen Geist.

*sanctum aliquid atque providum* ist, "ein heiliges Wesen, ahnungsvoll." Der heitere Araber, der im 9. Jh. Haddeby besucht, bewundert die Freiheit und die geistige Selbständigkeit der nordischen Frau. Bei den Iren: Adamnáns Gesetz vom 6. Jh. verbietet die Anwendung von Frauen im Kriege. Den Iren verschwimmen die Grenzen zwischen dieser und jener Welt sehr leicht; in der Dichtung des 11. Jh's gehört die Frau beiden Welten an: der Begriff *Fee* ist irisch.

Im Frankreich des 12. Jh.'s wird der grösste Gelehrte, Abailard, der Héloise Wissen lehrt und Liebe zugleich, von der Rache gekränkter Sippschaft getroffen. Gleichzeitig sind auch in Deutschland Geistliche Lehrer junger adeliger Damen, und es entwickelt sich eine Liebeslyrik, die nicht immer einer realen Grundlage entbehrt. Die Geistlichen betrachten diese Dichtung als ein Privilegium, das sie vergebens zu wahren suchen, als auch die Ritter sich dem Dichten hingeben.

Die Frau hat eine eigentümlich erhabene und gefeite Stellung in der ursprünglich irischen Tristan-Isolde-Dichtung, in den damit verwandten Arthur-Dichtungen und in den grossen höfischen Epen, ja, in der ganzen Ritterkultur. Es gibt fast eine Verschmelzung, jedenfalls eine Übereinstimmung zwischen irdischer und himmlischer Liebe—wie zwischen Gottes Sein und dem Wesen der Seele. In diesen Jahrhunderten steigt Maria empor, weniger als Mutter Gottes denn als die unbefleckte, erhabene Jungfrau, die Rose ohne Dornen, der Stern des Meeres. *Mea domina*, 'meine Herrscherin,' wird der bezeichnende, affektbetonte Ausdruck: *Madonna*, *Madame*, *mîn vrouwe*, *mevrouw*.

Die Vollendung des Ganzen, Gottes Welt und des Menschen Leben, Scholastik und Mystik, irdische und himmlische Liebe, finden wir in Dantes *Divina Commedia*.

Die harmonisierende Philosophie der Scholastik (für welche Aristoteles mehr als nur ein Kirchenvater war), das höfische Frauenideal der Ritterzeit, die himmeln strebenden Kirchen mit edlen Skulpturen und farbenreichem Fensterglas,—das ist die Reaktion der keltisch-germanischen Oberklasse auf die endliche Annahme des Christentums in den Jahrhunderten nach dem ersten Jahrtausend.

Man *weiss*, dass es Sünde und Armut, Krankheit und Tod gibt. Asketische, weltverneinende Strömungen können ungemein stark sein. Der Tod wird verherrlicht. Krankheit bemitleidet man. Man bewundert den Einsiedler. Die Armen gelten als Gottes besonders liebe Kinder. Aber das ist alles in hohem Grade von Aussen her: *Wir* leben, *wir* sind jung und gesund, *wir* lieben, *wir* sind zusammen im Kampf und beim Fest, *wir* haben das, was wir benötigen, selbstverständlich. Die Welt der Ritterdichtung ist hell wie ein gotischer Dom, wie ein Hochwald.

Es kommen aber andere Zeiten. Die kampffrohe Frömmigkeit des Ritters schwindet dahin ins Sinnlose, als die Kreuzzüge, die im 11. Jh. mit göttlicher Begeisterung begonnen hatten, immer mehr politische oder sogar kommerzielle Unternehmungen werden und im übrigen vom 13. Jh. an einfach Niederlage auf Niederlage bringen: die Türken waren ja die Sieger. Der Handel zur Zeit der Kreuzzüge machte den Bürger reich und den Adligen arm. Die Städte wuchsen, das Bauernland entvölkerte sich. Das

Klima wurde in Nord- und Westeuropa ungünstiger, Missjahre folgten, auch Sturmfluten. Um die Mitte des 14. Jh.'s begann der Schwarze Tod zu wüten, tötete Millionen, verheerte ganze Länder.

An der Mauer des Campo Santo in Pisa gibt es ein Bild von etwa 1380, das die Stimmung wiedergibt. Man ist auf der Jagd in einem herrlichen Wald: der Fürst, Ritter und schöne Damen, Falken und Hunde, Diener, alle ohne Makel, reichgekleidet. Jäh ist aber die Gesellschaft stehengeblieben vor drei offenen Särgen, worin Leichen liegen, die verschiedene Stadien der Verwesung zeigen: der Fürst hält sich die Nase zu, die anderen wahren den Anstand, aber Menschen und Tiere sind von Grauen ergriffen.

Gleichzeitig mit der Pest kommt Bewegung ins Geistesleben: die Literatur wird bürgerlich, moralisch, belehrend, mystisch (auf eine neue Weise: Birgitta!), aber auch ausgelassen: auf hoher Ebene im Dekameron, immer gröber in den fabliaux und in den Fastnachtspielen.

Es erfolgt—besonders in Italien—eine wunderschöne Entfaltung in den bildenden Künsten, vor allem in der Malerei. Aber auch die Musik findet neue Töne, nicht zuletzt in den Niederlanden.

Allein die Grundlage selbst schwankte. Die theologische Philosophie wurde kühner. Ketzertum breitete sich aus; dessen wurde sogar ein Papst angeklagt: Johannes XXII—das erregte ein solches Entsetzen, dass mehr als 600 Jahre vergehen sollten, bis ein liberaler alter Mann wieder den Mut zeigte, den Papstnamen Johannes anzunehmen.

Auf dem Laterankonzil von 1215 waren die Orden der Bettelmönche ausserhalb des Rahmens der feudalen Gesellschaft gegründet worden, um dem Papst seiner eigenen Hierarchie und auch dem Staat gegenüber eine unüberwindliche Stütze zu geben. Es waren aber dunkle Kräfte, die heraufbeschworen wurden. Wenn sich Tausende und aber Tausende ausserhalb des produktiven Lebens der Gesellschaft stellten, wenn diese Bettelmönche zu behaupten wagten, dass Jesus und seine Jünger von Bettelei gelebt hätten, und dass seine Nachfolge ein Gleiches fordere, dann sind das Strömungen, die auf den längst verlassenen Kommunismus des Urchristentums zurückweisen, dann endete das in Grossbritannien, in der Provence, in der Lombardei, in Böhmen mit einem Anarchismus, der die festgefügte Gemeinschaft bedrohte, der aber auch von der Staatsmacht mit Feuer und Schwert geknechtet wurde.

Die Gesellschaft kann die Proletarier unterdrücken, aber, erstaunlicherweise!: wirklich gefährlich wird die konservative Gegenbewegung. Auf Grund schmerzlicher Erfahrungen mit den Bettelmönchen, die seinem Amt Einnahmen entziehen, beginnt der englische Erzbischof Richard Fitz Ralph († 1360) in Armagh (Irland) darüber nachzudenken, welche theoretische Berechtigung das Betteln und die Armut überhaupt hätten. Er kommt zu dem Ergebnis, dass die alte, weltweite Lehre vom Wohlgefallen Gottes an der Armut falsch ist. Im Gegenteil besteht alle Aussicht, dass es einem in dieser Welt ohne Gottes Gnade nicht gut gehen könne, und dass der fleissig und strebsam Arbeitende, der das ihm anvertraute Pfund gut verwaltet, Gottes Gnade habe. Armut wird, wenn sie selbstverschuldet ist—und wann ist sie das nicht, falls das Pfund

nicht ausgenützt wird?—keineswegs Gottes Wohlgefallen wecken, sondern eine Schande sein.

Mit dieser Lehre von Segen und Verdienst durch Arbeit—die, mit dem Prädestinationsglauben verbunden, sehr hart wirken kann—liegt die Axt an der Wurzel der hierarchischen und feudalen Gesellschaft des Mittelalters.<sup>2</sup>

In diesem 14. Jh. wird der feste lateinische Rahmen durchbrochen, in sofern als man 1390 in Florenz anfängt, griechischen Unterricht zu erteilen. Als die Türken 1453 Konstantinopel erobert haben, fliehen byzantinische Gelehrte nach Italien—wie sechs Jahrhunderte vorher irische nach Gallien—, fördern dadurch ausserordentlich das Studium des Griechischen, und damit Bibelkritik, Philologie überhaupt. Zeitlich geht eine Versenkung in die alte Herrlichkeit Roms vorher, zunächst bei italienischen Patrioten und Humanisten wie Cola di Rienzo und Petrarca, die es beweinen, dass Forum Romanum ein *campo vaccino* 'Grasungsfeld der Kühe' geworden war, und die eine Wiedergeburt der alten Literatur u.a. dadurch erwirken wollen, dass sie ausgedehnte Reisen, auch nördlich der Alpen, unternehmen, um Handschriften bekannter Werke zu finden. Im 15. Jh. erweist Laurentius Valla philologisch, dass dokumentarische Grundlagen der Macht des Papstes wie die Donatio Constantina und die Dekretalen Isidors späte Fälschungen sind; das führt zu ungeahnten grosspolitischen Konsequenzen.

Man bekommt die Basis einer besseren Rechtschreibung, namentlich in der vom Volke gesprochenen Sprache, indem man *i* und *j*, *u* und *v* unterscheidet. Die Basis einer leichteren Rechenkunst erhält man schon im Hochmittelalter, indem man die arabischen Ziffern mit der magischen *O* lernt,—obwohl es bis 1599 dauert, bis Stevinus die bequemen Dezimalbrüche ersinnt.

Die Erfindung des Pulvers durchbricht die Panzer der Ritter und zerstört die lästigen adeligen Kleinburgen.

Man bekommt den Kompass und—von Holland—die Kreuzwind-Segelführung, ferner—vom niederländischen Zeeland—den sonderbehandelten "flämischen" Hering, d.h. eine haltbare und einigermassen vitaminreiche Kost, die dem Skorbut entgegenwirkt. Dadurch wird es zum erstenmal seit den Tagen der Wikinger ermöglicht, wieder über die Weltmeere zu fahren. Und man fährt: Amerika wird 1492 entdeckt, der Seeweg nach Indien 1498 gefunden.

Die Erde ist nicht mehr flach wie ein Pfannkuchen, das mittelalterliche Weltbild ist zerschlagen. Man erreicht das griechische physische Weltbild wieder, ja, man kommt noch weiter, mit riesigen technischen und philosophischen Möglichkeiten, die kommende Jahrhunderte verwirklichen sollen.

Nun erst, von 1517 an, nach Jahrhunderten vergeblicher Versuche, gelingt es *einem*

<sup>2</sup> Die Staatslehre von Richardus Armachanus wird von Wycliff übernommen und von Calvin weitergeführt, wird die Basis der Gesellschaftsstruktur in der Schweiz, dem Frankreich der Hugenotten, den nördlichen Niederlanden, Schottland, teilweise England und den Vereinigten Staaten—den Kernländern des Kapitalismus.

Mann, die mittelalterliche Römische Kirche zwar nicht zu zermalmen, aber doch ihre Macht entscheidend zu brechen. Es ist Martin Luther. Von ihm ist nicht nur die in weitestem Sinne deutsche und nordische, sondern auch jegliche andere Reformation abhängig, in der Schweiz wie in den Niederlanden, im Frankreich der Hugenotten wie in Schottland und auch in England (mit Ausstrahlungen über die Meere)—obgleich das Luthertum auf längere Sicht nur eine Enklave innerhalb der Gesamtheit des Protestantismus geblieben ist.

So wie wir am Anfang der Ritterzeit die Frage stellten, was das damals Neue gewesen sei, fragen wir jetzt, was man durch die Renaissance und durch die Reformation Neues gefunden habe. Die Antwort ist: das Individuum. Wir wollen versuchen, mit kleinen Worten sehr Grosses zu erklären.

Es sprang nicht völlig fertig aus der Stirn des Zeus. Es wuchs im Laufe von vier Jahrhunderten, aber es sah das Licht der Welt gegen Ende des Mittelalters. Es war die Auflösung der alten, magisch gebundenen Welt, die selbstverständlich nicht entschloß, denn man hat sie bei 'primitiven' Völkern, jedenfalls bis zur Universalität unserer merkwürdigen Zeit, beobachten können.

Luther behauptete immer wieder—am unvergleichlichsten in "Von der Freiheit eines Christenmenschen" (1520)—, dass das Heil des Einzelnen nur von seinem Glauben abhängt. Der gläubige Christ ist diesem Propheten der freieste Mensch unter der Sonne: nichts steht zwischen ihm und Gott. Es gibt keine Vermittlung durch Maria und die Heiligen; der angebliche Gnadenschatz der Kirche ist Katzensgold; ihre Dogmen sind unhaltbare Einfälle der Menschen; durch gute Taten kommt niemand dem Heil einen Hahnschritt näher.

Aber der Christ ist an seinen Nächsten gebunden, ist ihm versklavt: er ist gehalten, an seinem Nächsten gute Taten zu üben—um des Nächsten willen.

Die radikale Durchführung solcher Gedanken würde auch eine gereinigte alte Kirche zermalmen. Luther war jedoch nicht radikal, er war eigentlich konservativ, und die weiteren Jahre seines praktischen Lebens waren gewissermassen ein Kampf der Kompromisse.

Und wie sollte man den Glauben finden? Wie bei Paulus durch das Wort Gottes: "Das Wort sie sollen lassen stahn."

Im Mittelalter hatten ein logischer Grund und ein Argument der Väter—in einigen Fällen der weltlichen, in anderen der kirchlichen Väter—die gleiche Autorität gehabt. Auf eine an sich völlig mittelalterliche Weise stellte Luther die Heilige Schrift als einzige Autorität hin. Dann ist aber alles von der Art der Deutung der göttlichen Schrift abhängig.

Man kann einerseits der Schrift Gottes magisch und blindlings vertrauen und durch zufälliges Aufschlagen in der Bibel—etwa durch Einstecken einer Nadel—zu erfahren suchen, wieviel man für ein lahmes Pferd verlangen dürfe. Andererseits kann man, wie auch in weltlichen Texten, eine durchweg vernünftige Deutung verlangen. Aber wo

bleibt dann das Göttliche?—Tatsächlich erwächst aus dem Luthertum die völlig unchristliche Philosophie des 19. Jahrhunderts. Dann sind wir wieder bei den griechischen Denkern: der Mensch ist das Mass aller Dinge!

Über die Gefahren, die dem Stolzen, der nur dem eigenen vernünftigen Gewissen vertraut, auflauern, ironisierte Carl Spitteler: "... ein Gewissen, das ihn lehre ja und nein und das ihn sicher leite auf gebahntem Wege"—das aber auf ungebahnten Strassen im Stich lässt, Verbrechen und Tod erzeugt.

Durch die technische, wissenschaftliche, gesellschaftliche Entwicklung wird die Masse der sich aufdrängenden Tatsachen so gewaltig, dass der auf einem Gebiet klügste Mensch auf den meisten anderen fast ein lallendes Kind sein muss.

Wird dadurch eine zusammenhängende Universalerkenntnis, die nur nach Aufgabe des antiken und mittelalterlichen Autoritätsglaubens erhofft werden konnte, gegenstandslos?

Trotzdem und jedenfalls: die alten Iren suchten den verjüngenden Apfelhain der Feen, indem sie in einem Boot ohne Segel oder Ruder, den magischen Kräften des Windes und der Wellen vertrauend, ins offene Meer steuerten. Auch wir bleiben dabei, im eigenen Boot Avalun zu suchen. Wunderbare Aufklärung kann uns beistehen. Die Treibkraft ist—nur—in uns.

## ON THE ALTAIC NUMERALS

ERIC P. HAMP

1. The genetic unity of the Altaic languages has been repeatedly called into question. It is of course quite proper that any difficult and problematic relation be seriously and searchingly scrutinized, and that it be reconsidered in the light of changes and improvements in our factual knowledge and our grasp of general theory. Also, it is only by turning back to old questions in the light of new knowledge that we succeed in reformulating and improving old solutions even when we do not alter the net outcome of the solution. Such discussion and reevaluation, however, is in point only when it rests on sound method.

It is clear that no one can say that the genetic unity of the Altaic languages is the acquired (let alone the elaborated) certainty that such families as Indo-European, Hamito-Semitic (Afro-Asiatic), Uralic, Algonquian, Azteco-Tanoan (-Kiowa) are. Lately, even Otomanguan in Central America and Mexico has joined these proud ranks. There is a second order of assertion of familial unity represented by Sino-Tibetan, Austro-Asiatic (i. e., Munda to Mon-Khmer and Vietnamuong), or Niger-Congo (-Kordofanian), where the broad lines are emerging and certain portions are tolerably (or even elaborately, as with Chinese or Bantu) understood, but where the outside limits and the trail-off of accurate knowledge are hard to define. Then we have such groups as the entire North Caucasus, where the essential unity seems highly likely and much work goes on as if it were true, but where the specifics still need to be worked out. By all of this I mean to suggest two things: 1) Genetic unity is by its nature a relation that either is, or cannot be asserted; there is no half-way. Yet 2), as with many things, our certainty in claiming a familial unity is a probabilistic matter, and some groupings are by no means as sure as others.

It would be foolish to claim that the Altaic relation was one of the generally accepted acquired truths. Since a substantially complete (or at least obviously representative) comparative phonology, morphosyntax, and semantics must be inferable from the technical literature to satisfy this requirement, it is clear that adequate formulations of this level of quality are not yet available or accessible to make such a claim more than a hope.

However, as a less than optimal probability claim, the Altaic hypothesis seems to me entirely reasonable, and moreover the only principled basis on which to pursue further work touching on this matter. In short, I accept the Altaic unity, particularly in light



of the great advances made in many aspects of the question in the past two decades, and to which my dear friend and esteemed colleague Shirô Hattori has contributed so notably in manifold ways. I do not propose here to enter extensively into the debate with those who have lately denied the Altaic unity. For one thing, I think the point will be demonstrated best, and opponents will be convinced, by our advancing observations of deep-seated correspondences which, taken together, should, if the argument is well founded, be incredible as products of borrowing, diffusion, or convergence.

One set of methodological remarks is nevertheless in order. Doerfer (*Indogermanische Forschungen* 71, 1966, pp. 81–123) has renewed the claim that various correspondences are the result of ancient borrowing, and not of genetic inheritance. Although Doerfer displays learning and control of his material, and a careful critical sense, such an argument cannot be sustained on the following grounds of principle: We can only demonstrate relationship, never non-relationship. We can detect loans in roughly only two situations, (1) when they are relatively recent and the source is obvious, regardless of the relations of the receiving language (e.g., French loans in Basque, Russian loans in Mongolian); and (2) when we already know the genetic relations or philologically attested historic forms of the language so that we may detect anomalies in the phonological or morphosyntactic features of the forms in question. Finally, and for these reasons, we can test or disprove an assertion of genetic relation (though not the relation itself), but we can never disprove such assertions of borrowing as Doerfer argues. Therefore such argument is sterile, for it leads to no controvertible results. Even if our arguments are weak we should limit them to testable assertions, in discourses of the sort in question.

In the course of his argument, Doerfer turns (99–100) to the non-identity (with the exception of '4') of the numerals. But such instances of failure to correspond (quite apart from the fallacious claims that have often been made about the essentiality of certain form classes for purposes of comparison, and their supposed stable retention) mean nothing—that is, nothing more than that one or both languages have suffered loss if they are to be related. On p. 110 Doerfer summarizes his objections to a claim of *Urverwandtschaft*:

“1. Die Zahlwörter sind verschieden.

2. Das Lautsystem der beiden Sprachen ist unvereinbar und lässt sich nicht auf eine gemeinsame Ursprache zurückführen.

3. Der Verbalbau der beiden Sprachen ist (und zwar offenbar schon ursprünglich) unvereinbar und lässt sich nicht auf ein gemeinsames Ursystem zurückführen.”

It is interesting that J. Hewson (*IJAL* 34, 1968, 89–90) has just recently cited and criticized the 19th-century Amerindianist Gatschet, who made a similar claim (which may even develop not to be factually sustained) regarding the non-relation of the numerals in Algonquian and Beothuk. The second and third points also curiously resemble some of Gatschet's main claims in the same argument. These two are, of course, doubly fallacious; we know that typology is under no obligation to follow genetic rela-

tion. There are many cases that can be adduced where related phonological systems are superficially utterly different (e.g., Scottish Gaelic, English, Armenian, and Sindhi; or Cham and Hawaiian), and surely one would never guess that the modern Irish verbal system had the same origins as the Bulgarian. In brief, such negative arguments demonstrate nothing which can be made the basis of further statements.

Actually, in order to demonstrate genetic relation the total grammars of two languages must be linked, and this in their phonological, morphosyntactic, and semantic aspects simultaneously. No true proof ignores any of these aspects, regardless of the emphasis of a particular argument of the total discussion. Moreover, there must be an hypothesis showing the path of change posited from the proto-language to the descendants. The more detailed all of this is, the more persuasive the proof, and the higher the probability. Lexical (i.e. sound) correspondences alone are not enough; none of these aspects by itself suffices. It is also clear that in principle a language may lose almost anything. Thus all lexemes of a certain sort may be lost over time; they may even be replaced one by one by borrowings. Yet this does not vitiate the original relation, even though there may be no more evidence left to prove it. What we must look for, then, is networks of correspondences, however tenuous, that cannot have been imported or grown independently; these correspondences may be of any order, so long as it is discernable.

2. Let us turn now to the notorious numerals. Even if it should prove that underneath the different shapes of their various roots, or bases, there are subtly altered phonetic correspondences, let us set that aside for now. That is to say, let us study them for the time being regardless of the question of phonological correspondence within the lexical bases involved. Doerfer (op. cit. p. 116, fn. 12) provides us with a convenient tabulation:

	OTurk.	Chuvash	Bolgar	PMongol.	PTungus
1	bīr	pēr	bir	niken	āmün
2	eki	ikē	eki	qoyar	jōr
3	üç	višē	vüç	gurban	īlan
4	tört	tāvata	tüät	dörben	dügin
5	bāš	pilēk	bel, biāl	tabun	tuńga
6	altı	ultā	altı	jirguran	ńöŋün
7	yeti	šicē	jiāti	doluŋan	nadan
8	sākiz	sakār	sākir	naiman	japkun
9	toquz	tāhār	toŋur	yisün	χüyägün
10	ön	vunā	van, vān	parban	juwan
100	yüz	šer	jüz, jür	jaŋun	ńamā, tangu

There is no doubt that, as Doerfer points out, the Turkic forms (which form a clearly defined set) at a glance bear a different appearance; there seems to be a larger number

without any clearly marked suffixation. Let us therefore tackle the other two at closer range.

3. If we consult J. Benzing (*Die tungusischen Sprachen: Versuch einer vergleichenden Grammatik; Akademie der Wissenschaften und der Literatur, Abhandlungen der Geistes- und sozialwissenschaftlichen Klasse, Heft 11, Mainz 1955, pp. 949-1099*) we may slightly refine his reconstruction for the Tungus numerals (§114) by discriminating the following stages of surface shape:

1	*āmün	<	*āmgün
2	jör		jögür (pl.) (also jüör/jüär, §34)
3	ilan		il(g)uan
4	dügün		dürgün
5	tuŋga		?
6	nöŋün		nöŋgün
7	nadan		nad(g)uan
8	japkun		japkun
9	xüyägün		xüyä( )gün
10	juwan		ju(g)uan (also juan, §34)

As a control to these last, and for purposes of some points in the later discussion, let us briefly note the representative forms which substantiate the reconstructions:

	Manchu	Gold (Nana)	Lamut
1	emu	əm(un)	umən
2	juwe	juər	žür
3	ilan	elan	elan
4	duin	duin	digən
5	sunja	toynğa	tunŋan
6	ninggun	nuŋgun	nuŋən
7	nadan	nadan	nadan
8	jakûn	japkun~-kp-	žapkan
9	uyun	huyun	uyün
10	juwan	joan	žän- (žänra, collective for animals)

Benzing (§115) notes that Kotwicz, *Contributions aux études altaïques II*, has numbers 4, 5, 6, 9, 10 as loans from Mongolian. From the consistency that emerges below, this cannot be so; it is at least a gratuitous assumption. Benzing continues: "Die Struktur der tg. Zahlwörter scheint zunächst einmal auf eine Zusammensetzung der meisten Zahlen mit einem Element \*+gun, \*+guan." But after this suggestive and promising start, Benzing's further reconstructions (or double asterisks) are a trifle wooden and, I think, imprecise.

4. We do not have to look far within the known phonological development of

Proto-Tungus to see a regularity underlying the above reconstructions. We may note, for example, the trace of a similar alternation in the oblique first pl. pron. *\*mün~\*müän* (Benzing §122), and in the dative *\*-du~\*-düä* (>Ma. *-de*) (Benzing §93). It may also be in the excl. first pl. *\*büä* (if >Ma. *-be*): *-bü* (see Benzing §§123-4); however, consult E. D. Francis, *Indogermanische Forschungen* 71, 1966, 196-7, for a different explanation. For all these forms, then, we posit by internal reconstruction an earlier stable vocalism *\*ua/üä*. The resulting alternation in the proto language, which must once have depended on the immediate context (perhaps the preceding consonantism), has sorted itself out afresh on the basis of harmony and voicing:

Front harmony:	-ü-	(1, 2, 4, 6, 9)
Back harmony:	-ua-	(3, 7, 10)
Voiceless C:	-u-	(8)

Having established by stages the conditions of alternation, we are then justified in provisionally stating the oldest reachable PTungus elements as:

1	*äm-	+guan
2	jö-	+r
3	il-	
4	dür-	
5	see below	
6	ñön-	
7	nad-	
8	jap-	
9	xüyä( )-	(but see below)
10	ju-	

5. Let us now turn to the Mongolian system. For Classical Mongolian we may roughly extract bases as follows:

	Units	Decades	
1	ni-gen		ni-
2	qoya-r	qor-in	koy(a)-
3	ɣur-ban	ɣu-čin	gur-
4	dör-ben	dö-čin	dör-
5	tab-un	tab-in	tab-
6	jirɣu-ɣan	jir-an	jir(gu)-
7	dolo-ɣan	dal-an	dal(o)-
8	naj-man	nay-an	nay-
9	yis-ün	yir-en	yis/r-
10	(p)ar-ban	jaɣ-un	(p)ar-, jag-

The following remarks are added here because they have a bearing on the question of

the identity of bases, and the possibility of actually making Altaic lexical equations, even though that is not our immediate concern. Alongside *koy(a)-* '2' we may place *Dagur jee* '2nd' and the Classical *jitüger*, from a base *ji-*; see E. D. Francis, *Cahiers Fernand de Saussure* 21, 1964, 154-5. For the possibility of PTungus *\*gu-ga-* (or the like) '3rd', see E. D. Francis, *IF* 71, 1966, 195. I might suggest here that *tab-* '5' might plausibly be compared (see below) with *taba* < *\*tapa* 'sufficiency' (on this root see Poppe, *Vergleichende Grammatik der altaischen Sprachen, I Vergleichende Lautlehre*, Wiesbaden 1960, p. 42), also shown as *taɣa/taɣa* 'Vergnügen' (Poppe 13); note that *\*tapa-* is shown only for Mongolian and Turkic.

Thus we isolate the suffixes *+gan*, *+ban*, *+man*, *+r*, *+un*; *+in*, *+čín*, *+an*. These are distributed as follows:

1	ni-	+gan	
6	ǰir(gu)	"	+an
7	dal(o)	"	"
<hr/>			
8	nay-	+man	"
<hr/>			
3	gur-	+ban	+čín
4	dör-	"	"
10	(p)ar-	"	
<hr/>			
5	tab-	+un	+in
9	yis/r-	"	(but the decade matches the first group)
100	ǰag-	"	
2	koy(a)-r-	"	

If we consider the above distribution attentively, it becomes clear that there are two principles at work simultaneously: a phonological conditioning depending on the final of the stem, and a morphological difference marking the serial grouping of the numerals. These formations may be characterized in the following fashion.

First, let us reinterpret *nay-man* '8.' This may be viewed as a nasalized variant of the *+ban* type; therefore we rewrite it *nayN-* followed by *+ban*. Then we have

Decades:	2—5	+in (~č- < *t after stem-final -r)
	6—9	+an affixed to short stem
Units:	2	+r
	5, 9, 100	+un
	others	+ban after stem-final consonant
		+gan " " " " vowel

Allowing, then, for phonologically automatic variants, we find the following distinctive elements:

+in 'low section decades'

- +*an* 'high section decades'
- +*un* 'end of section'
- +*r* 'dual'
- +*ban/gan* 'general numeral'

6. We now attempt to account for the alternation +*ban/gan*. Since it is phonologically governed it would be natural to see it as arising at an early date from a single source contextually varied. The alternation of labials and velars (i.e., [+grave, -tense]) under contextual conditions is already a known phenomenon in the history of Mongolian. Poppe (op. cit. pp. 42, 46, 48) informs us that in "weak" position (before long vowel; perhaps the analysis of these positions needs some revising)  $*b-$  (and  $*p$ )  $> *β > *ɣ$  and Tung. *w* ( $>$ Gold zero), whereas before short vowel it yields Mong. *b* and Tung.  $*w$ . On the other hand, we find (op. cit. pp. 57-8) that in "strong" position  $*-g-$   $>$  Mong. *g* and Tung. *g*, whereas in "weak" position it results in Mong. *ɣ*. We must note here that the change between these spirants is unidirectional: The labial may change under conditions to velar, but not vice versa.

To account for the double form of our suffix (and perhaps also for the reflex. -poss. -*ban*, Evenki -*war*) we see that we must attribute to it at a very early date a labial component. However, if we are to relate it to the Tungus suffix, it cannot be a simple  $*b-$  which has been redistributed. We must posit something like  $*-gυ-$  then. It would be reasonable for such a group of features to be treated unitarily, and to resemble the outcome of  $*b$ , since at that time there was probably no independent  $*w$ . It might seem from this that early Mongolian (and perhaps Altaic?) possessed a set of labio-velar sounds that has heretofore escaped notice.

We shall write our suffix, then,  $*+gυan$ .

7. It is time now to discuss certain specific numeral bases. It will be seen from the argument above and from the way I write the base form that I cannot accept Poppe's reconstruction (96) for *doloγan* '7' as  $*dal-u-bān$ ; it must be  $*dal-o-gυan$ . Poppe makes the important point (110) that while *dörben* is  $*dör-ben$ , and *dörčin* is  $*dör-tin$ , and Ma. *duyin* is  $*dügin < *dö-gün$ , Turkic *tört* must be an old loan, since otherwise the corresponding initial would have to be Turkish *y-*, Chuvash *ś-* (as we perhaps see in '7'). However, he fails to follow up his observation. Since Turkic borrows the final dental stop, we should divide *döčin* as  $*dört-in$ , and perhaps reconstruct  $*dört+gυan$  and Ma.  $*dört-gün$ .<sup>1</sup> This also suggests that *ručin* is  $*gurt-in$ , and *γurban* is  $*gurt+gυan$ . Now the Mongolian decades are all perfectly regular in origin. This in turn vindicates another of Poppe's equations (28):  $*jürgügān$  is said to match Ev. *hūgun* etc. That is,  $*j$  becomes a Tungus nasal before syllable-final  $*r$ , and (88)  $*rg$  assimilates to *ng*; hence we have the progression (130)  $*hiṅgun < *nirgun < *jirgun$ . This all fits very nicely so

<sup>1</sup> Is this cluster also somehow the reason why OJapanese *yō* '4' lacks *r*?

long as '4' does not have *\*rg*, since no nasal develops there. But everything is in order if '4' had *\*rtg*, as just suggested.

8. We are now ready to juxtapose our results for Mongolian and Tungus. It is simplest to tabulate:

	Mong.		suffix		Tung.
1	ni-		+guan		ām-
2	koy-/ji-		+r		jö-
3	gurt-		+guan		il-/gu . . . (?)
4	dört-		+guan		dürt-
5	tab-	+un		+ ?	?
6	jir(gu)-		+guan		nön-<jir-
7	dal(o)-		+guan		nad-
8	nay(N)-		+guan		jap-
9	yir(s)-	+un		+guan	(see below)
10	par-		+guan		ju-
100	jag-	+un		+ ?	?

The exact parallelism is immediately apparent; regardless of equivalences or disagreements in the identity of the bases, the system and phonetic substance of the suffixal machinery, i.e., the derivational and form-class markers, are crystal clear. It would seem against all our experience to allege borrowing in such fine-grained detail, with such idiosyncratic intervals in the numerical series, if the two languages were at that time quite unrelated. It is much more likely that they have inherited this grammatical machinery along with certain phonetic shapes, but that over time they have innovated independently by discarding or transferring (e.g. to the 3rd person pronoun?) some bases and replacing them with new lexemes, either inherited or borrowed. This is, after all, what happens with much of the vocabulary of a language. In short, we recover here to a large degree the grammar without the morphs.

We are now in a position to take up the interesting problem of '9.' The reconstruction *\*xüyä( )gün* offered above is essentially based on that of Benzing. The parentheses mean that some lost consonant must be supplied which protected the *\*g*. However, Poppe (32-3) has a very different interpretation. He thinks Mong. *yesün* < *\*yersün* directly matches Ev. *yegin* < *\*yegün* and Lam. *uyun* < *\*yuyun* < *\*yügün* < *\*yegün*. Poppe further thinks (32-3) that Gold, Olča, and Orok have secondary initial *h* or *x*; therefore in the word in question Go. *xuyu*, Benzing's *hujun*, is derived by Poppe from *\*yuyun* < *\*yegün* etc. But even if we accept this excrescent initial *h*-, such a reconstruction still does not explain the vocalisms and the length in the Lamut form (see previous table). We still need something on the order of *\*üye( )gün*. Nevertheless, one thing seems clear: we now have a motivation for supplying a specific consonant to fill the parentheses. It seems we need *\*r* here, although perhaps it should be *\*rs* originally to prevent the nasalization seen in '6.'

We have thus arrived at (schematically)  $*(x)ü\text{-}yer(s)\text{-}gün$  '9.' It seems that we have some extended compound, or complex, form; it is hard to say anything more specific at this time than that. Why should this be? But note that it is precisely '9' that is an "end of section"; consequently the  $+guan$  should not have been original in this numeral. We seem here indirectly to have a reflex of the old pattern.

I simply cannot segment or etymologize PTung. '5' and '100' at this time; but they fit the intervals perfectly.

The pattern outlined above for the units of PMong., except for the phonetic substance of  $+un$ , applies equally to PTung.

9. Now what can be said of Turkic, in the absence of cognate bases? Even here there is a fragment of patterned correspondence. The loan '4' is the highest in the first  $+guan$  series. '5' is then isolated as everywhere. '6—9' are extended by suffixes  $+ti$  and  $+kVř$  (i.e., with high vowel harmony). Then '10' and '100' seem again to be simplexes. I would prefer not to speculate on the significance, if any, of the fact that Turkic has replaced the highest element before '5' with a loan which we can identify with confidence. Such speculation is in order only after a Turkologist, which I am not, has explicated the first three numerals within a comparative-historical framework. It is tempting, for example, to try to pair '1' (Chuvash *për*; also Japanese *hi*-?) with Mong. '10.' On the other hand, it seems to me significant that Turkic and Mongolian, each in its own way and therefore not as a superficial calque, have extended '6—9' in a special way. Note that here Turkic, which generally displays no obvious suffixes throughout, bears two clear suffixes; and Mongolian, which suffixes throughout, here bears special anomalous (and therefore old) thematic extensions. Is it accident that in both groups '6—7' has an extension in a vowel, while '8—9' is extended in a consonant? On the other hand, the initials of Turkic '6' and '7' look like those of Tungus '3' and '4.' Some of these are very slender threads indeed, but they may well lead somewhere. I think the most important, indeed a strongly persuasive, aspect pointing to a very ancient relation between the Turkic and Mongolian systems is the fact that we are concerned here with the most anomalous part of the rather regular Mongolian suffixal pattern. It is not surprising that we find no special correlations with the Tungus system, for it is clearly more levelled out in the intervening time by comparison with the more complex Mongolian set of shapes.

10. In sum, an early reachable stage of the Altaic numeral system seems to have included as characteristics: the treatment of '10' as a simplex and not as a multiple of '1'; a marker of '2,' probably in  $-ř$ ,<sup>2</sup> sections terminated by '5,' '9,' and '100'; special extensions for '6—9,' which forms the second "section." That is as far as we may safely go for the present in these subgroups. Moreover, we may see possible cognate

<sup>2</sup> Matching the vestigial Turkish dual  $-z$ .



bases within Mongolian-Tungus for '2,' '3' (?), '4,' '6,' and '9.'

11. If we turn to Korean, we may find yet another slender correlation. S. Martin has pointed out (*Lg.* 42, 1966, 245) in discussing 'two' (\**turxye* or \**tur*; MK "*tulh*") that a suffix *-h* may perhaps be found in '1,' '3,' '4,' '10,' and '20.' In Altaic terms just outlined, that comprises all the units except "ends of sections" and "extended" numerals (in the Mongolian-Turkic sense); i.e. all unmarked numerals. Functionally, then, Korean *-h* was the equivalent of +*guan* in its most restricted use. If so, what we see in Mong.-Tung. represents an extension in use. The Korean evidence also points to a vigesimal basis.

12. After the recent work of Murayama, of Martin, and of R. A. Miller, it is tempting to seek similar configurations in Japanese. One faint possibility does suggest itself, but it may be illusory. If *nana*- '7' were split *na-na-* (: Tung. *nad*-?), it may be said to be extended by *-nV<sub>1</sub>-*. Then also *ko(ko)no*- '9' could be similarly *-nV<sub>1</sub>-*. These extensions would exactly match in placement the second (or final) of each of the Turkic extensions for '6—9' discussed above<sup>3</sup>. Note, too, the interesting Japanese accent correlation between *nanatsu*, *kokonotsu*, and *itsutsu* '5.' as against '2—4,' '6,' and '8.' But I must not venture further into the difficult Japanese field, where I am but a novice and the scholar whom we honor is so much the master

UNIVERSITY OF CHICAGO, U. S. A.

<sup>3</sup> I have also noted in my paper on Proto-Ainu numerals, 5th Regional Meeting of the Chicago Linguistic Society, 1969, that a similar break in the series is found after '7' in Ainu, in Uralic (including Yukagir), in Ket (Including Arin), and in Gilyak, although in each of these the sub-series are for the most part manifested differently in detail. In the case of Chukchee we seem to have a system that goes more closely with North America (1-5 '6', 2-5 '7', 3-more '8' 1-behind '9' 2-hands '10'), although an overlay of the break between '7' and '8' may perhaps be seen. It thus appears that a break after '7' and a subtractive representation for '8' and '9' was characteristic for a whole area of northeastern Eurasia. Ket, Gilyak, Samoyed, and Finnic seem clearest on this; Altaic, Ainu, and Yukagir show the break, but not the simple subtractive feature. An early spread of such areal characteristics can easily help to obscure genetic inheritances.

# AN ASPECT OF ENGLISH QUESTION FORMATION<sup>1</sup>

KINSUKE HASEGAWA

It has been pointed out by Katz and Postal (*An Integrated Theory of Linguistic Descriptions*, p. 96) that English yes-no questions should be derived from deep structures containing the disjunctive element *either or*. Although their claim seems to be essentially correct, I think it is wrong to regard *either or*, as they do, as a member of the class of sentence adverbs, occupying the sentence initial position in deep structure. Such treatment makes it impossible to describe similar structures containing (*either or*) (e.g., Did you see Tom or Bill?) or to describe the relationship of these to ordinary yes-no questions. In this short note I will start from the assumption that *either or* involved in questions is an ordinary coordinate conjunction, and try to give a systematic account of yes-no questions and questions asking for alternative choice, including certain interesting sentences that have gone unnoticed so far.

It seems that the general nature of coordinate construction still awaits a satisfactory explication, in spite of plausible proposals by Chomsky (*Syntactic Structures*, pp. 36-7; *Aspects of the Theory of Syntax*, p. 212, p. 225), Gleitman ('Coordinating Conjunctions in English,' *Language* 41: pp. 260-293), and others. The rule of 'conjunction reduction,' for instance, which derives coordinate constructions from a string of (indefinite number of) sentences, is so unique an operation that its status as a transformation seems to me suspect. One might as well stipulate in the general theory that given a certain category A, which ranges over S, NP, VP, AP, V, N, A, and perhaps others,  $A + C + A$  is also A, where C is a coordinate conjunction.<sup>2</sup> Here we will leave open the problem of howco njointed structures are to be generated, since it has no direct

<sup>1</sup> This is a revised version of my article, 'Gimonkoozoo no ichimen,' *The Rising Generation*, Vol. 114, No. 7 (1968).

<sup>2</sup> This would amount to postulating a language independent Phrase structure rule schema:  $A \rightarrow C + A^n$  or  $A \rightarrow A^n + C$ , where the choice of one or the other might be dependent on certain ordering features of particular languages. Partially language particular transformations would 'copy' the conjunction and perform other necessary modifications. Cf. Lakoff-Peters, 'Phrasal Conjunction and Symmetric Predicates' Harvard Computation Laboratory (NSF-17); Dougherty, 'Coordinate Conjunction,' (unpublished). Lakoff-Peters argue for setting up two types of conjunction: phrasal and sentence conjunction. Motivation for this does not seem to me strong enough, since the restriction of some verbs to conjoined subjects (NP\*), for instance, is a natural consequence of the fact that they require plural subjects

bearing on the following observations. We will assume that we have coordinate conjunctions like (*both*) *and*, (*either*) *or*, and the structures like the following are generated somehow:

- (1) John loves [either or]<sub>C</sub> [Anne]<sub>NP</sub> [Martha]<sub>NP</sub>
- (2) John [both and]<sub>C</sub> [walked]<sub>VP</sub> [ran]<sub>VP</sub>
- (3) [either or]<sub>C</sub> [he was careless]<sub>S</sub> [it was fragile]<sub>S</sub>

Adjusting the order of elements by an obligatory operation roughly of the form:

- (4) [either or], A, A → [either]  
[both and], A, A → [both], A, [or]  
[and], A

we get:

- (5) John loves either Anne or Martha
- (6) John both walked and ran
- (7) Either he was careless or it was fragile

Next it becomes necessary to determine the position of the negative morpheme *Neg* in deep structure. Klima ('Negation in English,' Fodor-Katz, *The Structure of Language*, p. 301) has pointed out that in sentences like:

- (8) The old people wanted to remain, but not the young people / If Mary can come in, why not John

where nothing follows the subject, *Neg*, a member of *Preverb*, appears in sentence initial position, realized as *not*. It seems most convenient to place *Neg* in front of the subject in deep structure, where it remains when the whole predicate is truncated, and to adjust its position in a number of steps according to the structure of the predicate. We may then ask how sentences like (9) are to be generated:

- (9) Either they discussed the matter or not

We might tentatively posit an affirmative *Preverb*, a counterpart of *Neg*, which is phonetically realized as zero.<sup>3</sup>

- (10) either or [ $\phi$ ]<sub>Prev</sub> [not]<sub>Prev</sub> they discussed the matter

<sup>3</sup> It might be possible to consider *so* in *I think so* or *I did so too* as a variant of this affirmative preverb under certain conditions.

Applying (4) to (10), we get:

- (11) either  $\phi$  or not they discussed the matter

where *or not* must be shifted to the sentence final position. However, *or not* shift is optional when (10) is embedded in a main sentence:

- (12) I don't know *wh* + either or not they discussed the matter

With the above preliminary remarks, we can now turn to the problem of yes-no question formation. A set of correspondences like;

- (13) I don't know when he saw Bill—When did he see Bill? / I don't know what he ate—What did he eat? / I don't know whether you saw Bill (or not)—Did you see Bill (or not)?

suggests that the underlying structure of yes-no questions involve *either or*, as pointed out by Katz and Postal. The following set of examples provides a good piece of evidence for such a view:

- (14) (a) You saw Bill.  
 (b) Did you see Bill?  
 (c) Did you see Bill or not?  
 (d) \*You saw Bill or not.  
 (e) Either you saw Bill or not

If, roughly speaking, (b) were derived from (a), then the underlying structure of (c) would be (d). However, (d) is ungrammatical and the gap is filled in by (e), which contains *either*.

Questions are also credited with the question morpheme *Q* in their deep structure. The syntactic motivation given by Katz and Postal (*op. cit.*, pp. 87–9) does not seem to me very strong, however. The fact that questions do not cooccur with certain pre-sentential elements (sentence adverbs: \*Probably did he leave?) does not in itself indicate the necessity of positing pre-sentential element *Q* in deep structure. In fact, *Q* seems to be redundant even from a semantic point of view, since we can uniformly associate a certain formal feature with the appropriate semantic interpretation. That is, it seems possible to establish a principle of semantic interpretation which assigns an appropriate meaning (equivalent to the meaning of *Q*) to sentences: a sentence receives the reading of *Q* just in case *wh* is associated with [–Definite] in deep structure (or at an intermediate stage of derivation). It has been argued that the contrast between (15) and (16):

- <sup>5</sup> Although *either* does have determiner-like (or pre-determiner-like) properties, we will make no attempt to explore such 'deeper' properties.

<sup>7</sup> To be more precise, *or* in (4) should be replaced by (*wh*) *or*.

(24) is embedded:

- (29) I don't know #wh+either wh+or not you Pres love Anne# (→I don't know whether or not you love Anne)

One may note in passing that *or not* shift is a transformation that moves a specified term to the right of a variable and is subject to the condition that the term (i.e. *or not*) must command the variable (Ross, *Constraints on Variables in Syntax*, MIT thesis (1967), p. 341). We next apply *wh*-inversion, which moves the elements marked with *wh* to the sentence initial position. This process underlies both questions and relative clauses, and is applicable both to matrix and embedded sentences. We will ignore here various interesting conditions on this rule.

- (30)  $\frac{X}{1}, \left\{ \frac{[wh+Y]_{NP}}{wh+either} \right\}, \frac{Z}{3} \rightarrow 2, 1, 3 \quad / \left\{ \frac{///}{\#} \right\} \underline{\quad}$

This applies to (25) and (28) (vacuously, in the latter case), yielding:

- (31) // wh+either you Pres love Anne wh+or Martha //  
 (32) // wh+either you Pres love Anne wh+or not //

It also converts (33) into (34):

- (33) I don't know #you Pres love wh+either Anne wh+or Martha #  
 (34) I don't know #wh+either you Pres love Anne wh+or Martha #

At this stage Auxiliary attraction applies, which attracts part of the Aux constituent to the sentence initial *wh*-expressions (and negative expressions):

- (35)  $\left\{ \frac{[wh+X]_{NP}}{wh+either} \right\}, \frac{(NP)}{2}, \frac{Y}{3}, \frac{Z}{4} \rightarrow 1, 3, 2, 4 \quad / // \underline{\quad}$   
 where: a)  $Y = Tns, Z = V + W$  or b)  $Y = Tns \left\{ \begin{matrix} M \\ have \\ be \end{matrix} \right\}$

As the contextual specification shows, this applies only to the outermost sentence. Hence it does not apply to (29) or (34). On the other hand (31) and (32) must undergo this change:

- (36) // wh+either Pres you love Anne wh+or Martha //

<sup>8</sup> Hence it is inaccurate to say, as Katz and Postal do (*op. cit.*, p. 105), that Q is first shifted to the sentence final position, and then is realized as a rising contour.



- (43) // *wh* + *either* Pres you love Anne *wh* + *or* Martha // → // Pres you love Anne *wh* + *or* Martha // → ... → Do you love Anne ↗ or Martha ↘
- (44) // *wh* + *either* Pres you love Anne *wh* + *or not* // → // Pres you love Anne *wh* + *or not* // → // Pres you love Anne *wh* (*or not*) // → ... → Do you love Anne ↗ (or not ↘)

Since (41) does not apply to embedded sentences, *wh* + *either* in (29) and (34) is not deleted. In fact, as is pointed out by Katz and Postal, (41) must have been optional in Middle English, as examples like (45) indicate:

- (45) Wheither seistow this in ernest or in play? (Chaucer, A 1125: Do you say this in earnest or in play?)

In sum, the above mechanism accounts for such sentences as (46), which are not handleable by Katz-Postal's analysis:

- (46) (a) Do you love Anne ↗ or Martha ↘  
 (b) Do you love Anne ↗ (or not ↘)  
 (c) Do you love either Anne or Martha ↗  
 (d) \*Do you love either Anne ↗ or Martha ↘  
 (e) Do you love Anne or Martha ↗

Of these, (a) and (b) have already been dealt with in detail. (c), (d), and (e) present interesting data. Type (e) has long been pointed out, but the fact that only (c) is possible, whereas (d) is deviant, does not seem to have been noticed so far. Our analysis predicts that precisely this should be the case. A crucial clue for the analysis of sentences (c), (d), (e) is provided by sentences in (47), which, though perhaps clumsy, might be regarded as grammatical:

- (47) (a) Do you love either Anne or Martha ↗ or not ↘  
 (b) Do you love Anne or Martha ↗ or not ↘

These sentences suggest that the deep structure of (46) (c) is (48), where *either or* occurs twice:

- (48) // *wh* *either or*  $\phi$  not you Pres love *either or* Anne Martha //

Applying (22), (4) (twice), *or not* shift and *wh*-inversion, we get:

- (49) // *wh* + *either* you Pres love *either* Anne or Martha *wh* + *or not* //

Further obligatory transformations give (47) (a). If *or not* is deleted, the result is (46)

(c). Notice that the rising intonation cannot be placed in front of the first *or* in (49), but only in front of the second. This explains why (46) (d) is impossible. (46) (e) starts from the structure:

(50) // wh either or  $\phi$  not you Pres love or Anne Martha //

which differs from (48) only in that the second conjunction is *or* rather than *either or*. The fact that sentences in (46), (47) can be explained in a natural way provides fairly strong support for the analysis proposed above.

UNIVERSITY OF TOKYO, JAPAN

# NOTES ON MANDARIN PHONOLOGY\*

MANTARO J. HASHIMOTO

## CONTENTS

1. Introduction
2. Difficulties in former approach
  - 2.1 The low vowel phoneme
  - 2.2 The mid vowel phoneme
  - 2.3 Segmental or suprasegmental?
3. A proposed solution
  - 3.1 Low and mid vowels
  - 3.2 Retroflex finals, syllabic consonants and nasal endings
4. Concluding remarks

---

"It is impossible to study speech sounds without referring to the linguistic structure that underlies them; . . . a sound phonological study of a language can be worked out only on the basis of precise and accurate investigation into phonetics, and accurate phonetic observation can be obtained only through correct phonological study."<sup>1</sup>

—Shirô Hattori

### 1. Introduction

Since the time of the "classic example of classical phonemics"<sup>2</sup> of Lawton M. Hartman (1944), extensive studies have been carried out on the phonetics and phonology of Mandarin, and the following inventory of Mandarin phonemes seemed to be generally accepted, at least as the basis for further discussions on controversial details:

the consonants /b, p, m, f, d, t, n, l, z, c, s, ʒ, ʧ, ʃ, r, g, k, ŋ, x/

the vowels /i, ü, i, u, ə, a/

---

\* An earlier version of this paper was completed with the support of the Ohio State University Research Foundation under the supervision of Professor William S-Y. Wang and was read before the 26th Summer Meeting of the Linguistic Society of America, held in Bloomington, Indiana in July, 1964. Thanks are due to Professors Morris Halle, Michael A. K. Halliday, Fred W. Householder, Fang-kuei Li and William S-Y. Wang for their comments. The author feels very happy and honored to dedicate this particular study to his teacher Professor Shirô Hattori, as it was the latter's stimulating article on Pekinese phonology that led the present author to the world of modern linguistics.

<sup>1</sup> S. Hattori (1960), p. 280. The present author is responsible for the English translation.

<sup>2</sup> M. Joos (1957), p. 123.

The consonant phonemes, except for the nasal phoneme /ŋ/, exhaust the initial consonantal segments of Mandarin syllables, and, if we put aside the so-called "retroflex finals,"<sup>3</sup> the remaining part of a Mandarin syllable consists of one of the following combinations of vocalic and nasal segments which are called "finals" in the terms of Chinese traditional phonology:<sup>4</sup>

a	ia	ua	/
ai	/ <sup>5</sup>	uai	/
au	iau	/	/
an	ian	uan	üan
aŋ	iaŋ	uaŋ	/
ə	iə	uə	üə
əi	/	uəi	/
əu	iəu	/	/
ən	iən	uən	üən
eŋ	iəŋ	uəŋ	üəŋ
i	i	u	ü

According to the interpretation expressed in the two short but insightful remarks by Professors Yuen Ren Chao (1934) and Shirô Hattori (1954), one will realize that the following sounds fall under the set of finals with the low syllabic vowel phoneme as well as the set with the mid vowel phoneme:

a	ǎa	üa	/
aǐ	/	üaǐ	/
aǔ	ǎaǔ	/	/
an	ǎen	üan	üan
aŋ	ǎaŋ	üaŋ	/
ɤ	ǎe	üə	üə
eǐ	/	uəi	/
oǔ	iəu	/	/
en	in	uən/wen	üən
eŋ	iəŋ	uəŋ/wəŋ	üəŋ

One will also see the almost complete complementary distribution of sounds with respect to finals, the clear parallelism of occurrence between finals with the low vowel phoneme and those with the mid vowel phoneme, and the regular nonoccurrence of certain types of finals—the only exceptions being \*üa and \*üaŋ whose nonoccurrence is due to historical change;<sup>6</sup> the rest of the blanks of the above table all interpret-

<sup>3</sup> That is, those "finals" (see footnote 4) with the retroflex ending /ɻ/ (the so-called "r-like sound"). Such morphemes as /ər<sup>2</sup>/ "son," /ar<sup>3</sup>/ "ear," /ar<sup>4</sup>/ "two," etc. are excluded for the time being from our consideration here.

<sup>4</sup> We follow the traditional division of Chinese syllables into two constituents, the "initial" (consonants) and the rest of the syllable (including tone) which is usually referred to as the "final."

<sup>5</sup> Concerning the combination iai, see Z. Liu (1957), p. 2.

<sup>6</sup> See for example M. J. Hashimoto (1965), Volume II, pp. 546, 585–586, 621–624, etc.

able as the result of dissimilation of the medial or the ending vowels. The ingenuity of the above interpretation can all the more be appreciated as one learns more about the morphophonemics of this language, as well as of the correspondences between Mandarin and various modern dialects, or between Mandarin and the older stages of Chinese.

## 2. Difficulties in Former Approach

Some subsequent studies on Mandarin phonology, however, had the effect of demonstrating some theoretical shortcomings of the former approach to phonology.

### 2.1 *The Low Vowel Phoneme*

As was shown in the preceding section, various variants of the low vowel fall under the phoneme /a/: low back, low front or higher low front. All of them are in complementary distribution with respect to the environments in which they occur. However, very rare marginal contrasts are found by S. E. Martin in such pairs as:<sup>7</sup>

[am]: [t'am<sup>1</sup> pu<sup>4</sup> ts'ɿ<sup>1</sup> lə] "He (honorific) does not eat anymore"

[am]: [t'am<sup>1</sup> pu<sup>4</sup> ts'ɿ<sup>1</sup> lə] "They do not eat anymore"

Although we know that the former is an assimilated form of [t'an<sup>1</sup>] "he (honorific)" to the following bilabial sound, the latter a contracted form of [t'a<sup>1</sup>#men] "they," we have to set up on the phonemic level two low vowel phonemes, low front and low back (low non-front), so long as the levels of description are strictly separated from each other and no information of morphophonemics can be utilized in phonemic analysis. The distribution of these two low vowel phonemes is naturally almost complementary and they are mutually distinct only in two final pairs /am/ versus /am/ and /uam/ versus /uam/ which occur merely in a few words:<sup>8</sup>

/a/:	/	/	/	/
/a/:	a	ia	ua	(üa) <sup>9</sup>
/a/:	ai	(iai) <sup>9</sup>	uai	/
/a/:	/	/	/	/
/a/:	/	/	/	/
/a/:	au	iau	/	/
/a/:	am	/	uam	/
/a/:	am	/	uam	/

<sup>7</sup> S. E. Martin (1957), p. 219. The phonetic notation is the present author's. Tones are given by a raised numeral for each morpheme.

<sup>8</sup> There are other pairs, such as: [kaɿ<sup>1</sup>] "liver" versus [kaɿ<sup>1</sup>] "(tip)-cat". However, the distinction is not "front" versus "non-front," but apparently short versus long. See S. E. Martin (1957), pp. 220-221.

<sup>9</sup> S. E. Martin (1957) interprets the final [üa] as /iua/ (our /üa/); he also accepts the final /iai/.

/a/:	an	ian	uan	üan
/a/:	/	/	/	/
/a/:	/	/	/	/
/a/:	aŋ	iaŋ	uaŋ	/

Also we have to set up an ending nasal /m/, in spite of the fact that the two nasals /m/ and /ŋ/ are obviously in complementary distribution, namely bilabial before vowels (in the initial position within a syllable) and velar after vowels (in the ending position).<sup>10</sup>

## 2.2 The Mid Vowel Phoneme

A more serious difficulty in the phonemic solution appears in the treatment of mid vowels.

Two mid vowel phonemes are mandatory if the phonemic transcription of the so-called retroflex finals is taken into consideration without segmenting each of them into a normal final and a morpheme /r/. The normal finals in the Peking dialect, as we observe, constitute the following distinct groups once they become "retroflexed," or, strictly speaking, once they are followed by the diminutive morpheme /r/:<sup>11</sup>

[ər]:	/a # r/ /ai # r/ /an # r/ (/ar <sup>3/4</sup> /)	[aŭr]:	/au # r/	[ār]:	/aŋ # r/
[yer]:	/ia # r/ / /ian # r/	[iaŭr]:	/iau # r/	[iār]:	/iaŋ # r/
[üer]:	/ua # r/ /uai # r/ /üan # r/	/		[üār]:	/uaŋ # r/
[üer]:	/	/		/	
	/üan # r/				
[ɤr]/[or]:	/ə # r/ /ər <sup>1/2</sup> /	[oŭr]:	/əu # r/	[ɤr]:	/əŋ # r/
[ɤr]:	/iə # r/	[ioŭr]:	/iəu # r/	[iɤr]:	/iəŋ # r/

<sup>10</sup> Though native scholars as well as C. F. Hockett (1947) list several morphemes with the /m/ ending, we can always find the uncontracted counterpart of these morphemes. See M. Joos (1957), p. 222, Liu (1957), p. 8, R. Li (1957), p. 33, etc.

<sup>11</sup> The list is based on the author's observation on the retroflex finals published in the introductory chapter of T. Kuraishi (1963), pp. 8-9. The present author has not yet observed in any genuine Mandarin speaker's speech the consistent distinction between /ar/ and /air/, /uar/ and /uair/, or /iar/ and /iair/ as given by C. F. Hockett (1947). See M. Joos (1957), p. 221. 1/2 indicates that the tone of the syllable is either the first tone or the second tone.

	/i <sup>3/4</sup> #r/		
	/iən <sup>3/4</sup> #r/		
[üor]:	/uə #r/	/	[ũɤr]/[Ůr]: /uəŋ #r/
	/		
	/		
[üör]:	/üə #r/	/	[ũŮr]: /üəŋ #r/
	/ü <sup>3/4</sup> #r/		
	/üən <sup>3/4</sup> #r/		
[ər]:	/i #r/	/	/
	/əi #r/		
	/ən #r/		
[üər]:	/	/	/
	/uəi #r/		
	/uən #r/		
[ir]:	/i <sup>1/2</sup> #r/	[ur]: /u #r/	[ür]: /ü <sup>1/2</sup> #r/
	/	/	/
	/iən <sup>1/2</sup> #r/	/	/üən <sup>1/2</sup> #r/

Only because of the different phonetic configurations between /(u)ə/ on the one hand and /(u)əi/ and /(u)ən/ on the other when they are followed by the diminutive morpheme /r/, two mid vowel phonemes are indispensable. The retroflex counterpart of the final /ə/ is [ɤr] or [or] (if preceded by a labial segment), while that of /əi/ and /ən/ is [ər]. Also the corresponding retroflex variant of the final /uə/ is [üör], while that of /uəi/ and /uən/ is [üər]. For example, the following pairs are kept distinct by most of the Mandarin speakers in the form of the difference of length in addition to the difference of vowel quality: [ɤ] and [o] in [ɤr] and [or]/[üör] are relatively longer than [ə] in [ər] and [üər] respectively:<sup>12</sup>

{ /ə/ + /r/ → [ɤr]: /gə<sup>1</sup> #r/ "song," /gə<sup>1</sup> #r/ "brothers"  
 { /əi/ } + /r/ → [ər]: /gən<sup>1</sup> #r/ "root," /gən<sup>1</sup> #r/ "heel"  
 { /ən/ }

{ /uə/ + /r/ → [üör]: /guə<sup>3</sup> #r/ "egg," /guə<sup>4</sup> #r/ "living"  
 { /uəi/ } + /r/ → [üər]: /guəi<sup>3</sup> #r/ "trick," /guəi<sup>4</sup> #r/ "shelf"  
 { /uən/ }  
 /guən<sup>3</sup> #r/ "roller," /guən<sup>4</sup> #r/ "stick"

The contrast between these two mid vowel phonemes can be interpreted as front versus back (or non-front), as in the case of the two low vowel phonemes mentioned above.

To interpret [ər] as either /əir/ or /ənr/ does not seem to be tenable. The interpretation of [ər] as /əir/ will make it difficult to justify the alternation between /i/ and /n/ in

<sup>12</sup> # serves as a syllable boundary marker; syllable boundary markers work as morpheme boundary markers in most Mandarin morphemes.

/gən<sup>1</sup>/ [ken<sup>1</sup>]~ /gəir<sup>1</sup>/ [kər<sup>1</sup>] "root," while the realization of /ən<sup>r</sup>/ as [ər] also finds difficulty in justifying the alternation between /n/ and /i/ in /guəi<sup>4</sup>/ [küei<sup>4</sup>]~ /guən<sup>r</sup><sup>4</sup>/ [küər<sup>4</sup>]. It is also hardly feasible that a combination of two vowel phonemes /əi/ would yield a shorter phonetic actualization than that of a single /ə/.

### 2.3 Segmental or Suprasegmental?

The linearity of phonemic representation is in some cases hard to maintain in Mandarin.

Finals that fall under /iou/, /uəi/ and /uən/ occur in complete complementary distribution with respect to tones. Under tones 1 and 2 are found the following finals with "very short and weakly articulated"<sup>13</sup> mid vowels:

[iōu]

[uəi]

[uən]

while under tones 3 and 4, the following:<sup>14</sup>

[iōǔ]

[üei]

[üen]

However, when an original tone 3 changes into tone 2 by tone sandhi, the mid vowels that occur between the two high vowels [ɿ] and [ʊ] on the one hand and [ǔ], [ɿ] and [n] on the other, do not change together with the tone. Thus the following contrasts are possible:

[iōu<sup>1/2</sup>] : [iōǔ<sup>3</sup>] : [iōǔ<sup>3/4</sup>]

[uəi<sup>1/2</sup>] : [üei<sup>2</sup>] : [üei<sup>3/4</sup>]

[uən<sup>1/2</sup>] : [üen<sup>2</sup>] : [üen<sup>3/4</sup>]

and most speakers distinguish, for example, the following pair:<sup>15</sup>

[iōu<sup>2</sup> # tʃin<sup>3</sup>] "oil-well"

[iōǔ<sup>2</sup> # tʃin<sup>3</sup>] "there are wells"

In order to keep these contrasts in phonemic transcription, we have to set up either one additional toneme or one additional mid vowel phoneme. As was clearly shown in an experiment performed by W. S-Y. Wang and K. Li,<sup>16</sup> we have no positive motivation to set up an additional toneme, so the only way of distinguishing these pairs is to add one mid vowel phoneme to the phoneme inventory. But this time we have to set up a contrast between, for example, long and short mid vowels; and the contrast, otherwise suprasegmental, now turns out to be segmental, and the occurrence of the "short" mid vowel phoneme is, moreover, restricted to the above mentioned finals only.

<sup>13</sup> Y. R. Chao (1948), pp. 23-24.

<sup>14</sup> Also after velar initials. See for example R. Li (1957), p. 33.

<sup>15</sup> Addenda to C. F. Hockett (1947) and (1950); see M. Joos (1957), p. 228 and 315; also Y. R. Chao (1965), p. 68.

<sup>16</sup> W. S-Y. Wang and K. Li (1963) and (1967).



### 3. A Proposed Solution

An absolute acoustic clue in segmenting a continuous flow of speech sound cannot always be expected in analyzing the phonetic system of natural languages.<sup>17</sup> It is therefore sometimes a matter of phonemic consideration that decides certain phonetic segmentations of speech sounds for a phonetic description. Thus it may not be surprising to find that the same type of consideration is necessary in determining certain phonemic segmentations in the study of phonemic systems. Some phonemic segmentations can be construed only with an assumption on the whole structure of the language under investigation.

The interpretation of the two low vowel phonemes, front and back, and of the two mid vowel phonemes, front and back (or long and short) in Mandarin, results from the fact that the different stages of phonetic assimilation of a phoneme to the environments are not taken into account. In other words, the role of the interplay between phonemes (sometimes between segmental phonemes and suprasegmental phonemes, as in the case of the Mandarin example given above) is not considered in the above-mentioned phonemic analysis of Mandarin mid vowels for example.<sup>18</sup> If we carefully observe and take into account the relevant phonetic processes, the problem in question permits a simple solution.

#### 3.1 Low and Mid Vowels

In the case of the two low vowels, a phonological rule will convert the low vowel phoneme /a/ into [a] before the ending segment /n/ (as well as before /i/) and into [ɑ] before a syllable boundary (in other words, when no other segment follows the vowel phoneme /a/ within a syllable):

Rule 1:

$$/a/ \longrightarrow \begin{cases} [a] & \text{if: } \begin{cases} /n/ \\ /i/ \end{cases} \\ [ɑ] & \text{otherwise} \end{cases}$$

Thus the following phonetic specification will take place:

$$/tan^1 \# bu^4/ \longrightarrow [t'an^1 \# pu^4]$$

$$/ta^1 \# mən/ \longrightarrow [t'a^1 \# mən]$$

Afterwards, an assimilation rule which applies only to some restricted cases such as /tan<sup>1</sup> # bu<sup>4</sup>/:

Rule 2:

<sup>17</sup> M. Halle (1959a), p. 504.

<sup>18</sup> See pages 107–108 of J. A. Fodor and J. J. Katz (1964) for the discussion on the separation of levels of linguistic description by N. Chomsky. But the present case of Mandarin does not seem to be merely the problem of excluding the higher-level information in phonology. The interpretation in question does not recognize the interplay between phonemes in their phonetic realization; hence the notion of ordering phonological rules does not come up in the description. This disregard of the intricate processes of phonetic realization of phonemes in phonemic description can be analogized with the nonreference to the transformational processes which map the deep structures into their respective surface structures in syntactic analysis.

[n] → [m] if: \_\_\_\_ [labial]

and a contraction rule which applies also to certain restricted number of morphemes, change:

[t'an¹ # pu⁴] into [t'am¹ # pu⁴]

[t'a¹ # mən] into [t'am¹]

To sum up, at the lowest (or "deepest") stage, we have /tan( # b)/ (followed by a labial segment) and /ta # mən/. At the second stage, the assimilation of phoneme /a/ to the environments takes place (this was formulated as Rule 1 above). At the third, the ending segment of /tan/ is assimilated to the following labial sound (formulated as Rule 2 above) and /tan/ is now actualized as [t'am]; on the other hand, a contraction takes place with [ta # mən] and the morpheme now turns out to be [t'am]:

Stage III: [t'am ( # b)] [t'am]

Stage II : [t'an ( # b)] [t'a # mən]

Stage I : /tan ( # b)/ /ta # mən/

In providing the phonemic representation /tam/ for [t'am( # b)] and /tam/ for [t'am] the above processes of phonetic realization of phonemes are not taken into account at all. If they are, no difficulty will be found in keeping the distinction between [t'am- ( # b)] (/tan¹( # b)/) and [t'am] (/ta¹ # mən/) by a single low vowel phoneme /a/ in both the phonemic and the phonetic representation of morphemes.<sup>19</sup>

The case of the two mid vowels in retroflex finals is simply a matter of ordering the application of phonological rules. Roughly speaking, the following three rules are mainly responsible for bringing about the allophones in question:<sup>20</sup>

Rule 3:

/ə/ → [o] if: (\_\_\_\_) [labial] (\_\_\_\_ #)

<sup>19</sup> More or less the same opinion on this point was later shared by Teeter and Mei (1966).

<sup>20</sup> The formulation of Rule 3 is not completely correct in that what determines the lip-rounding of the phoneme /ə/ is not merely the "labiality" of the preceding or the following segment. The sound that falls under the phoneme /ə/ is [o] before or after the consonant phonemes /b/, /p/, /m/ and /f/ and the vowel phoneme /u/, but not after the vowel phoneme /ü/. In the terms of articulatory phonetics, no simple statement (except for listing these relevant phonemes) can single out the phoneme /ü/ among the labial phonemes of Mandarin, because while both /u/ and /ü/ are rounded in contrast to the labial consonants /b/, /p/, /m/ and /f/, /ü/ and the labial consonants are front sounds in contrast to the phoneme /u/. In the terms of distinctive feature analysis, however, for the distinction between the phoneme /ü/ and the rest it suffices to mention the acuteness of /ü/ in contrast to the gravity of the labial consonants and the vowel /u/.

The treatment of the vowel phoneme /ü/ in contrast to both /u/ and the labial consonants is also related to the phonemic interpretation of the final [ŋ]. The syllabic vowel [ɛ] of this final can reasonably be interpreted as /ə/, if we interpret [ü] as a rounded front high vowel (a diffuse, flat but non-grave vowel) instead of the cluster of /i/ and /u/ in this order.

We follow the usual conventions of writing grammatical rules, phonological or syntactic, with one modification: we propose to write a simple arrow → for feature rewriting rules and a double arrow →→ for feature specification rules (M. J. Hashimoto (1965), pp. 416-417). All rules are applied first to the longest choice of the optional elements, next to the second longest, etc. This convention was proposed in J. D. McCawley (1965), section 1.2.3. The formulation of the constraint in this fashion is the present author's. The choice of "if: \_\_\_\_" applies vacuously.

Rule 4:

$$/ə/ \longrightarrow \begin{cases} [e] & \text{if: } (\{ /i/ \}) \text{ — } (\{ /i/ \}) \\ [ɤ] & \text{otherwise} \end{cases}$$

Rule 5:

$$\begin{cases} \{ /i/ \} \\ \{ /n/ \} \end{cases} \longrightarrow \phi \quad \text{if: } \_\_\_\# /r/ \#$$

$$[e] \longrightarrow [ə]$$

Moreover, they should be applied in the order of their numerical numbering; that is, Rule 3 which predicts the difference determined by the environment of whether a labial segment precedes or follows the phoneme /ə/ (namely the difference between [o] and [ɤ]) must precede both Rules 4 and 5 in the application, and Rule 5 which drops the ending segment /i/ or /n/ before the diminutive morpheme /r/ must be applied after Rule 4 has specified the phonetic shape of /ə/ in the given environment.

Thus, by Rule 3 is determined, among others, the following specification:

$$/guər\#/ \longrightarrow /guo\#r/$$

and by Rule 4 the following:

$$/gə\#r/ \longrightarrow /gɤ\#r/$$

$$/gəi\#r/ \longrightarrow /gei\#r/$$

$$/gən\#r/ \longrightarrow /gen\#r/$$

$$/guəi\#r/ \longrightarrow /guei\#r/$$

$$/guən\#r/ \longrightarrow /guen\#r/$$

Rule 5 drops the endings /i/ and /n/, and converts all [e]'s into [ə] before /r/:

$$\begin{cases} /gei\#r/ \longrightarrow /ge\#r/ \\ /gen\#r/ \longrightarrow /ge\#r/ \end{cases} \longrightarrow [kər]$$

$$\begin{cases} /guei\#r/ \longrightarrow /gue\#r/ \\ /guen\#r/ \longrightarrow /gue\#r/ \end{cases} \longrightarrow [küər]$$

Thus Rules 3, 4 and 5 render it unnecessary to mark the contrast in question on the phonemic level.

As for the two mid vowel phonemes, long and short, it is also a matter of ordering the tone sandhi rule and the phonetic specification rule for the mid vowels [o] and [e]. As was mentioned above, an assimilation rule first converts the phoneme /ə/ into [o] and another assimilation rule changes it into [e] or [ɤ] depending upon whether the phoneme is preceded (or followed) by a labial segment, /i/, /ü/, /n/, etc. or not. Next, the following rule determines the length of [o] and [e] in the environment

$$\left\{ \begin{array}{l} /i/ \_\_\_\_ /u/ \\ /u/ \_\_\_\_ \{ /i/ \} \\ \quad \quad \quad \{ /n/ \} \end{array} \right\}^{21}$$

<sup>21</sup> The problem of the initial consonants is put aside here only for the convenience of presentation.

Rule 6:

$$[o/e] \longrightarrow \begin{cases} [\tilde{o}/\tilde{e}] & \text{if: } \_\_\_\_ 1/2 \\ [o/e] & \text{otherwise} \end{cases}$$

After this, a tone sandhi rule changes tone 3 into 2 before a syllable with tone 3:

Rule 7:

$$/\text{tone } 3/ \longrightarrow / \text{tone } 2/ \quad \text{if: } \_\_\_\_ / \text{tone } 3/$$

In this case, too, no additional symbol is required for distinguishing  $[\tilde{e}]$  from  $[e]$ , and  $[\tilde{o}]$  from  $[o]$  on the phonemic level.

### 3. 2 Retroflex Finals, Syllabic Consonants and Nasal Endings

The following rules generate the rest of the retroflex finals from the corresponding non-retroflex finals:

Rule 8:

$$/\partial/ \longrightarrow \emptyset \quad \text{if: } \left\{ \begin{array}{l} /i/ \\ /ü/ \end{array} \right\} \_\_\_\_ /n^{1/2} \# /r/ \#$$

Rule 9:

$$/ / \longrightarrow /e/ \quad \text{if: } \# (C/) \left( \left\{ \begin{array}{l} /i/ \\ /ü/ \end{array} \right\} \right)^{3/4} \_\_\_\_ \# /r/ \#$$

Rule 8 yields the phonological distinction between:

$[\text{ɿər}]$  ( $</i\partial n^{3/4} \# r/$ ) and  $[\text{ɪr}]$  ( $</i\partial n^{1/2} \# r/$ )

$[\text{üər}]$  ( $</ü\partial n^{3/4} \# r/$ ) and  $[\text{ür}]$  ( $</ü\partial n^{1/2} \# r/$ )

while Rule 9 determines the phonetic shape of the following finals:

$/\# (C)i^{3/4} \# r/ \longrightarrow [(C)\text{ɿər}]$

$/\# (C)ü^{3/4} \# r/ \longrightarrow [(C)\text{üər}]$

$/\# C\partial \# r/ \longrightarrow [C\partial r]$

As is already implicitly shown in Rule 9, the occurrence of the high central vowel  $/i/$  is predictable,<sup>22</sup> since there is no consonant phoneme in Mandarin which is neither followed nor preceded by a vowel within a syllable. Consequently, we can present the following morphemes in the following form respectively:<sup>23</sup>

$/z\partial^4/$  "character" simply as  $/z^4/$

$/c\partial^2/$  "word" "  $/c^2/$

$/s\partial^4/$  "four" "  $/s^4/$

$/ž\partial^3/$  "only" "  $/ž^3/$

$/č\partial^1/$  "to eat" "  $/č^1/$

$/š\partial^4/$  "to be" "  $/š^4/$

$/r\partial^4/$  "day" "  $/r^4/$

Next, Rule 10 correctly specifies the phonetic shape of these morphemes:

<sup>22</sup> This presents a counter-example to the interesting principle claimed by T. Lightner. See J. D. McCawley (1965), section 1.3.2.

<sup>23</sup> This exactly coincides with the romanization of the given morphemes devised by Straxov (Qiu-bai Qu), A. A. Dragunov, etc. (in the *La-ding-hua xin-wen-zi*).

## Rule 10:

$$/ / \longrightarrow /i/ \text{ if: } \# / C / \_\_\#$$

From this rule, it is clear that we can dispense with the phoneme /i/ from our system of Mandarin phonemes.

Adding one more rule for eliminating the boundary marker # occurring before the diminutive morpheme /r/, major rules discussed above (namely, Rules 4 and 5 and 8 through 10) can now be reformulated and ordered as follows (the old number is given in brackets):

## Rule 11 (8):

$$/ə/ \longrightarrow \emptyset \text{ if: } \left\{ \begin{array}{l} /i/ \\ /ü/ \end{array} \right\} \_\_\_ /n^{1/2} \# /r/ \#$$

## Rule 12 (4):

$$/ə/ \longrightarrow \begin{cases} [e] & \text{if: } \left( \left\{ \begin{array}{l} /i/ \\ /ü/ \end{array} \right\} \right) \_\_\_ \left( \left\{ \begin{array}{l} /i/ \\ /n/ \end{array} \right\} \right) \\ [ɤ] & \text{otherwise} \end{cases}$$

## Rule 13:

$$\# \longrightarrow \emptyset \text{ if: } \_\_\_ /r/ \#$$

## Rule 14 (5):

$$\left\{ \begin{array}{l} /i/ \\ /n/ \end{array} \right\} \longrightarrow \emptyset \text{ if: } /V/ \_\_\_ /r/$$

## Rule 15 (9):

$$/ / \longrightarrow /e/ \text{ if: } \# (C) \left( \left\{ \begin{array}{l} /i/ \\ /ü/ \end{array} \right\} \right) \_\_\_ /r/$$

## Rule 16 (10):

$$/ / \longrightarrow [i] \text{ if: } \# C \_\_\_ \#$$

The Jakobsonian distinctive feature system makes it possible to eliminate the phoneme /ŋ/ from our Mandarin phoneme inventory. The three nasal phonemes /m/, /n/ and /ŋ/ are phonologically characterized in terms of the distinctive features diffuseness and gravity in the following way:

	/m/	/n/	/ŋ/
gravity	+grav	-grav	+grav
diffuseness	+diff	+diff	-diff

As was mentioned above, although there are in all three nasals in Mandarin, /m/ occurs before syllabic vowel and /ŋ/ after syllabic vowel only. Therefore, on the phonemic level, we need just two nasals, namely a grave nasal and a nongrave nasal both in the initial position and in the ending position of a syllable. The feature diffuseness is redundant due to the above-mentioned sequential constraint on the occurrence of nasals within a syllable. Hence, the feature diffuseness, which distinguishes /ŋ/ from /m/ need not be specified until we come to the specification of the phonetic properties of each segment. The following rule will give the desired specification:

Rule 17:

$$\begin{bmatrix} +\text{nasal} \\ +\text{grav} \end{bmatrix} \rightarrow \begin{cases} [+ \text{diff}] & \text{if: } \_\_\_ / \text{V} / \\ [- \text{diff}] & \text{otherwise} \end{cases}$$

#### 4. Concluding Remarks

The phonological system we arrived at and the method which led to the conclusion should now be examined in the light of modern theory of phonology.

The phonemic description was characterized, by M. Halle, as the one which provides a method for inferring the correct phonological representation from the phonetic data of a language with recourse only to the information contained in the phonetic representation, in addition to the instructions for deriving the appropriate phonetic realization from the phonological representation, whereas the morphophonemic description does not provide a method of inferring the phonological representation from the phonetic data.<sup>24</sup> As was seen from the discussions on Mandarin mid and low vowel phonemes, what is really at issue is not merely the problem whether the description should be phonemic or morphophonemic, but the method of how we should approach the sound system of natural languages where we find an interesting interplay of phonemes in their phonetic realization in actual speech. We had shown with Mandarin vowels as an example that no single "principle" of phonemic analysis could solve the jumbled phonetic realization of Mandarin phonemes without introducing some theoretical assumption based on the general understanding of the whole structure of this language.

The different phonetic actualization of the vowel phoneme /a/ into [a] and [ɑ] for example, might in the course of time result in the restructuring of morphemes due to phonological changes by "lexical diffusion,"<sup>25</sup> and we see the preliminary stage of such restructuring in [t'am<sup>1</sup>] "he" and [t'am<sup>1</sup>] "they." However, the contrast between [t'am<sup>1</sup>] and [t'am<sup>1</sup>] is due to the ordering of some minor phonological operations of phonetic realization such as the assimilation and the contraction restricted to a limited number of morphemes; hence the distinction between [a] and [ɑ] cannot be purely phonemic unless the uncontracted counterpart of [t'am<sup>1</sup>] "they" becomes obsolete and unless, due to some lexical restructuring, the morphological segmentation of [t'am] into [t'a<sup>1</sup>] and the suffix [m] becomes impossible. Whether the native speakers can easily and consistently pronounce the two vowels [a] and [ɑ], or [e] and [ɤ] in isolation or in the same environments does not have direct bearing to the justification of setting up these vowels as phonemes.

We believe that no normal speech event can occur independently from the linguistic structure of the language. As far as the phonology, neither physiology nor acoustics, of Mandarin is concerned, the whole linguistic structure of Mandarin must be taken

<sup>24</sup> M. Halle (1959b), pp. 21-24.

<sup>25</sup> W. S.-Y. Wang (1967), pp. W5-W9.

into consideration in analyzing Mandarin phonemes, since Mandarin phonemes are nothing but the theoretical constructs for describing the sound system of Mandarin. (IV 68)

PRINCETON UNIVERSITY, U. S. A.

#### REFERENCES

- Chao, Yuen Ren, 1934, "The non-uniqueness of phonemic solutions of phonetic systems," *Zhong-yang Yan-jiu-yuan Li-shi Yu-yan Yan-jiu-suo Ji-kan (Bulletin of the National Research Institute of History and Philology, Academia Sinica)* 4-4:363-397; M. Joos (1957) 38-54.
- , 1948, *Mandarin Primer*, Cambridge, Harvard University Press (3rd printing, 1961).
- , 1965, *A Grammar of Spoken Chinese*, Berkeley and Los Angeles, University of California Press.
- Chomsky, Noam A., 1964, "Current issues in linguistic theory," J. A. Fodor and J. J. Katz (ed.), *The Structure of Language: Readings in the Philosophy of Language*, Englewood Cliffs, Prentice-Hall, Inc. (1964) 50-118.
- Halle, Morris, 1959a, "Questions of linguistics," *Supplemento al Volume XIII, Serie X del Nuovo Cimento* 494-517.
- , 1959b, *The Sound Pattern of Russian*, The Hague, Mouton & Co.
- Hartman, Lawton M., III, 1944, "The segmental phonemes of the Peiping dialect," *Language* 20:28-42; also with slight revision in M. Joos (1957) 116-123.
- Hashimoto, Mantaro J., 1965, *Phonology of Ancient Chinese* (dissertation), Volumes I and II, University Microfilm, Inc. order number 66-6265.
- Hattori, Shirô, 1954, "Pekingono on'intaikeini tsuite (On the phonological system of Pekinese)," *Gengo Kenkyû (Journal of the Linguistic Society of Japan)* 25:78-79; S. Hattori (1960) 276-278.
- , 1960, *Gengogakuno Hôhō (Methods of Linguistics)*, Tokyo, Iwanami Shoten.
- Hirayama, Hisao, 1959, "Pekingono on'inronni kansuru nisanno mondai (A few problems on Pekinese phonology)," *Gengo Kenkyû (Journal of the Linguistic Society of Japan)* 35:31-51.
- Hockett, Charles F., 1947, "Peiping phonology," *Journal of the American Oriental Society* 67:253-267; M. Joos (1957) 217-228.
- , 1950, "Peiping morphophonemics," *Language* 26:63-85; M. Joos (1957) 315-328.
- Joos, Martin (ed.), 1957, *Readings in Linguistics*, New York, A. C. L. S.
- Kuraishi, Takeshirô, 1963, *Iwanami Chûgokugo Jiten (Iwanami's Chinese Dictionary)*,

Tokyo, Iwanami Shoten.

- Li, Rong, 1957, *Han-yu Fang-yan Diao-cha Shou-ce* (*A Handbook for the Survey of Chinese Dialects*), Peking, Ke-xue Chu-ban-she.
- Liu, Ze-xian, 1957, "Bei-jing-hua jiu-jing you duo-shao yin-jie? (How many syllables are there in the Peking dialect?)" *Zhong-guo Yu-wen* (*Chinese Language and Writing*) 56:1-8, 57:17-23.
- Martin, Samuel E., 1957, "Problems of hierarchy and indeterminacy in Mandarin phonology," *Zhong-yang Yan-jiu-yuan Li-shi Yu-yan Yan-jiu-suo Ji-kan* (*Bulletin of the Institute of History and Philology, Academia Sinica*) 29-1:209-229.
- McCawley, James D., 1965, *The Accentual System of Standard Japanese* (dissertation).
- Teeter, Karl V., and Kuang Mei, 1966, "A note on Mandarin phonology," *Language* 42-1:67-68.
- Wang, William S-Y., 1967, "Competing changes as a cause of residue," *Project on Linguistic Analysis Report* SS 2:W1-W26.
- , and Kung-pu Li, 1963, "Tone perception experiment, with appended test materials," *Project on Linguistic Analysis Report* 6:19-26.
- , 1967, "Tone 3 in Pekinese," *Journal of Speech and Hearing Research* 10-3: 629-636.



# ON THE MEANING OF BILINGUAL COMPETENCE

EINAR HAUGEN

The word "bilingualism" is a popular term that has been made to cover so many different phenomena that it has become virtually meaningless.

Spanish-speaking children who are put in English-speaking schools in Texas and New Mexico are called "bilinguals." Flemish students who riot in Brussels and Louvain against the dominance of French are said to have a "bilingual" problem. South Indian speakers of Dravidian who riot against the imposition of Hindi as a national language are involved in India's "bilingualism." Greeks who riot against a new, demotic translation of the Bible replacing the more conservative *katharevousa* have a "bilingual" problem. Norway, with its two traditional written languages, the New Norwegian and the Dano-Norwegian, is "bilingual" although the two are scarcely more than dialects of one another. The many new African nations in which there are sometimes hundreds of native dialects and languages are forced to become bilingual by adding an international language like French or English to their linguistic repertory. The fact is that some degree of bilingualism is now and has always been a part of the experience of most human beings who have not remained rooted to the spot where they were born. The extent to which bilingualism is a problem depends on the time and the occasion; but there is probably no nation in the world where it has not at some time been both a personal and social problem for at least some of its inhabitants.

Bilingualism as a field of study has caught the interest of scholars in several different disciplines without having become a central topic in any one of them. Linguists, psychologists, educators, sociologists, political scientists, and historians have all made contributions to its study. In considering bilingualism many of these have tried to define the concept and make it more precise as a tool of research. In so doing they have found it necessary to create a great number of other terms that have distinguished special kinds of bilingualism or certain aspects of it: I mention e.g. diglossia, bidialectalism or even bilectalism, multilingualism, polyglossy; or such modifiers as inceptive and residual, compound and coordinate, receptive and productive, or infant, adolescent, and adult bilingualism. Not only are there different kinds of bilingualism, there are different degrees. While e.g. Maximilian Braun (1937, 115) defined it as "active, completely equal mastery of two or more languages," Robert A. Hall (1952, 14) was willing to accept "at least some knowledge and control of the grammatical structure of the second language." The great variety of not only degrees, but also personal and social situations involved in bilingual behavior has made it necessary for each

scholar to find his own definition and to make his own distinctions within the field, as suitable for the specific situations he is involved in investigating. But the proliferation of terminology has not only made it harder for the general reader; it has also deprived the whole field of any clear focus of interest.

I am going to propound and discuss a definition that agrees rather closely with the popular conception of bilingualism: "native competence in more than one language."<sup>1</sup> This is the strongest possible definition, and we may take it as our model or ideal in thinking about the subject. Socially this implies that a bilingual is accepted as a native in more than one language community; linguistically that he functions alternately as a native speaker of more than one language.

We shall now examine the two parts of our definition: what does it mean to have "native competence" and what does it mean to speak of "more than one language"?

Let us begin with "native competence": what does it mean to know a language like a native? It obviously means something different for children than for adults: we observe children rather easily picking up a language in a new speech environment and chattering away among their playmates, but the range of their knowledge is limited, and unless they grow up in their new community they will not acquire the full range of the adult speaker.

If we define "native competence" in terms of the adult speaker, we may say that it means the ability to meet the norms set for themselves by the members of a language community. Every community tolerates idiosyncratic deviations from these norms, but for any homogeneous language community the norms are otherwise quite rigid and comprehensive for native speakers. They include a close adherence to phonological, grammatical, lexical, social, and paralinguistic rules of behavior. If we quickly run through these areas of behavior we will soon see what it really means to have native competence.

The phonology of a language appears to be the part that is first learned and last forgotten. Most children have mastered it by the end of their fourth year; even if a new language is taught them later, renewed contact with the first language brings back some of their childhood competence. We should not underestimate the effort required by the child: a new phonology may take up to a year to learn perfectly. But they do learn it, at least up to puberty; then a hardening of personality occurs, which is a major obstacle to the learning of new phonologies. I leave it to psychologists to explain the reasons for this; as linguists we can easily identify the adult learner's deviations from community norms: it is popularly known as a "foreign accent." Phonology consists of a small number of phonemic units with rather precise phonetic ranges, endlessly repeated until they are completely automatic and unconscious. They are so

<sup>1</sup> Strictly it should be in *two* languages because of the prefix *bi-*, but the more correct *multilingualism* is of rather restricted usage. It is used as the title of a book by V. Vildomeč (1963) and its German equivalent *Mehrsprachigkeit* by Ruke-Dravina (1967); but most writers, like Elwert (1960) and this writer prefer to regard multilingualism as a special case of bilingualism rather than the reverse.

deeply ingrained that they have become an essential part of the young adult's personality and he unconsciously resents and resists any tampering with them. From the point of view of communication theory any deviation is noise in the channel which makes the message harder to understand. Observation has repeatedly confirmed that incorrect phonology is the surest social indicator of foreign status. (Whether this is "good" or "bad" depends on circumstances: a Greta Garbo or a Maurice Chevalier could capitalize on it as part of their charm, but the average immigrant has felt it as a handicap. An American woman who put all her effort on the learning of a perfect French accent found that she was taken for a stupid Frenchwoman because she had nothing to say in her new native accent!)

Grammar in its widest sense is the formal framework that links the outer, phonological message to its inner, semantic content. As we know, this is specific for every language and the surest guide to the kinship of languages. It is being defined in current linguistics as a set of rules for generating well-formed sentences. Anyone who has learned these rules should then be able to determine when a sentence is well-formed or grammatical, as it is now often expressed. This terminology can be misleading, since "grammatical" does not mean according to the usual school grammars or normative standards, but according to the real grammar internalized by the child when learning his native tongue. The experiments conducted in this field show very clearly that the child does not formulate "rules" in the sense of explicit statements such as a grammarian might make, but that he operates with analogical extension of patterns he has observed in the speech around him. He applies these analogies until he is checked by his environment, which rejects forms like "foots" or "mans" or "childs" for the plural and imposes exceptional ones like "feet" or "men" or "children." It is actually the most important part of learning grammar to know when to stop: what are the limits of extension of a pattern. In learning the English plural one must not only learn a multitude of exceptional plural forms for individual words, but also a highly intricate pattern of expressions in which the singular and plural are required contrary to semantic expectations: e.g., that English treats the word *information* as a mass noun, like *water* or *sand*, so that individual bits have to be referred to as "pieces of information" (like "drops of water" or "grains of sand"), while most other European languages have regular singulars and plurals (G *Auskunft*, *Auskünfte*; F *renseignement*, *renseignements*; N *opplysning*, *opplysninger*; etc.). One of the most common errors of foreigners speaking English is to "ask for informations." The native speaker of English has not only learned the various phonetic forms of the definite article and the regular semantic function of the article: he has also learned when not to use it where other languages having an article do, e.g. *love conquers all* (where German has *die Liebe*, French *l'amour*, Norwegian *kjærlighet-en*, etc.), or *he scratched his head* (G *den Kopf*, F *la tête*, N *hode-t*, etc.). Again, this vast and complicated apparatus can be learned by any child, though full mastery comes later than that of the phonology. By the time a child comes to school in our culture he has mastered the grammar of his language; the purpose of the school is usual-

ly a combination of making him unlearn considerable parts of it in favor of that of his standard literary language and of teaching him the often more complex superstructure of written language, with its long tradition from the past. Thanks to this kind of education, the adult's knowledge of his grammar is more subtle and complex than that of the child: he is able to use and appreciate the structural intricacies of poetic and literary diction. But here we do not find the same watershed of learning as with phonology: because of the greater intellectual content and the less automatic nature of grammar, it can be mastered after puberty; also, it offers the intelligent learner a greater challenge and one more worthy of his efforts. But the effort is herculean when we get into the more delicate aspects: a Chinese or Japanese adult learner of English who has mastered every possible use of the definite article or the plural is a rare person indeed.

Both the phonology and the grammar may in some ways be regarded as closed systems; but the lexicon is open-ended and without enumerable limits. A child learns only the words that are needed in his restricted world; but an adult goes on learning as long as he lives, and the size of his vocabulary is limited only by his memory span and his opportunities for new experience within his lifetime. No one ever learns all the words of his language, nor is it expected by the community that he should. Within the lexicon there are clearly delimited spheres: the child's, the adolescent's, the adult's; the man's, the woman's; the casual and the noncasual; the general and the special; the serious and the humorous, to mention only some of the more important. In sum, the words one knows constitute an index of the life one has lived, and of the culture of which one is a part. For again it is not merely a matter of knowing the word for "house" or "chair" or "moon" as abstract or universal concepts: one needs to know what the community includes as referents for the word "house" and "chair" and "moon"; and one needs to know the circumstances under which a house is not a house but a home or a building or a cottage, and that a "warm chair" is not the same as a "hot seat," or that "moonshine" does not necessarily refer to the shining of the moon. One learns these things by living them, by listening and speaking and interacting until they become part of one's most intimate self. By learning them one becomes a member of the community and internalizes its culture.

I mentioned "paralinguistics" as a special part of the learner's task, but in fact it is only a part of the preceding: the whole area of non-verbal communication that accompanies the verbal. This includes the quality of voice that expresses pleasure and displeasure, joy and anger, as well as the gestures with which we accompany our words. These are not just individual, as many think, but are culturally taught and only to a small extent universal. The Japanese hiss of politeness is a well-known case of one that leads only to misunderstanding; but the American smile of politeness is equally disconcerting to people who are accustomed to smiling only when something is funny.

The sum of my discussion is that "native competence" in a language goes far beyond

anything that can be acquired in any language class, or indeed by anything short of a lifetime of experience in the language. It is coterminous with the individual's knowledge of the society in which he lives and with which he interacts. Socially it ties him into the network of human relationships that characterizes his community. It determines his view of the world, since his language categorizes experience for him and makes him see the world through the glasses of his native language.

My definition of "native competence" may seem to some to be so strict as to exclude all bilingualism. How can a person possibly acquire two such competences in anything less than two lifetimes? To be natively competent in two languages would then mean to have had two childhoods, so that all the joys and frustrations of that fundamental period in life could penetrate one's emotional response to the simple words of the language. It would mean to have acquired the skills of reading and writing that go with two separate educational systems such as all literate societies now impose on their adolescents, or the corresponding rigorous forms of initiation and skill development that formed part of all nonliterate societies. It would mean to have two different identities, one looking at the world from one point of view, the other from another; it would mean sharing in the social forms, habits, prejudices, and insights of two cultures. In short, it would mean being two entirely different people.

The answer comes, I think, in a close consideration of the second part of my definition of bilingualism; let us ask what it means to speak "more than one language." The ambiguity of the word *language* is if anything greater than that of *competence*. Linguists have wrestled with the problem, which is of fundamental importance in all study of language, but have so far been able to offer no good theoretical solution, only practical ones. Their usual practice is to reject the problem and operate with fictions. This is the meaning of Saussure's dichotomy between *langue* and *parole*, which most linguists have accepted in their thinking if not in their practice. The *langue*, according to Saussure, is a coherent system ("où tout se tient") which enables the speaker to produce and interpret speech; the linguist discovers it by abstracting from speech the rules by which it is governed. The *langue*, for which we will here substitute the word *code*, is shared by the speaker with other members of his speech community. All empirical study shows, however, that no two speakers have identical codes; America's answer to this problem was the word "idiolect" to designate the individual speaker's code. The term is not very useful, however, since even the individual varies his code from time to time, and only that code which he shares with others is of general scientific interest. But the unitary code is a pure construct in the same sense that the unitary social group is one; and in fact there is a continuum of linguistic difference from those minor (idiosyncratic) deviations that characterize individuals within a single community to the total disjunction between languages belonging to different language families. Within this continuum the most powerful divider between dialect and language is the factor of *intelligibility*: we may define two codes as being *dialectally* different when their users can communicate with only a minimal effort of learning. In this restricted sense of "dialect"

(which was also that of Bloomfield) many fully developed standard languages are really dialects, e.g. Czech and Slovak, Hindi and Urdu, Norwegian and Swedish. Within each of these dichotomies we may make a further distinction between conjunct and disjunct varieties: conjunct dialects are alternately used by the same persons and may be called "styles," while disjunct dialects are normally used by different persons and are the "dialects" proper, which identify members of geographical or social groups within stable societies. Conjunct languages are those that are related by common descent and/or massive interpenetration (for the latter e.g. Chinese and Japanese) while disjunct ones are completely unrelated. E.g., biblical English is a style of English,

	Dialects	Languages
Conjunct	Styles	Cognates
Disjunct	Dialects	Non-cognates

while Yorkshire English is a dialect; English is a cognate language to German, but a non-cognate to Algonquian. It is obvious that one can make further distinctions, but these will be the most useful ones for our discussion. While the fit is far from perfect, we may assume that styles differ in only a few features, dialects in a good many more, cognates in a great many, and non-cognates in virtually all. But we must not forget that these are all human languages, and that even the most disjunct of codes have some features in common, if nothing else those that are now being called "language universals."

This is the saving feature for the bilingual in trying to acquire native competence in a second language: he can carry over something from his first so that he will not need to duplicate every experience in his second. The child who has first discovered the uses of language in one code does not again have to fumble his way to a realization of what language can do for him. The closer the two languages are to one another in our scale of distance, the fewer the items he will have to learn and unlearn in the second. We may even phrase it in this way that any two languages have a common core, to which the bilingual will have to add those items that are special for each of the codes he masters. The closer the codes, the greater the core; we may regard the residues as subcodes which characterize each of the linguistic varieties entering into his repertory. Put in another way: in learning a second language he may need to learn only half a language. That is why I defined bilingualism as competence in "more than one language": one and a half is more than one, even if it is less than two.

Our definition also makes it possible to distinguish various kinds of bilinguals according to the distance between the codes involved. As gross measures one could speak of conjunct and disjunct bilinguals, for example, bilinguals in English and German vs. those in English and Japanese. But should one also speak of those who master two dialects as bilinguals? In many cases yes, where the dialects have sharply distinct structures; but in general we can call them bidialectals. A conjunct bidialectal would then be one who mastered more than one style—perhaps just a "stylist." All of these linguistically complex situations have many features in common, so that even when we

are speaking if bilingualism in the strict sense we should realize that bidialectalism is closely related and is a form of bilingualism in the wider sense. Dialects are after all cognate languages that have not diverged beyond the point of intelligibility.

The critical problem for all bilinguals, attested both by selfreport and performance, is that of keeping the subcodes apart. If speech is to be both referentially meaningful and socially acceptable, it has to meet the constraints imposed by the community. This is reasonably easy as long as the two subcodes are unambiguously coded for their respective communities. By this I mean that the speaker always uses one language to one set of speakers with one set of cultural norms and the other language to another set of speakers with a different set of cultural norms. He can then turn on one code when he is speaking with one group and the other code with the other group. The process whereby he turns on a different code is usually called "code switching." Bilinguals are by definition required to switch code from time to time; but it makes a great deal of difference how often it is necessary and how clear the cues are that signal the necessity.

It is well-known that children learn a second language more rapidly and accurately if they can always speak one language to the same person, e.g. French to the father and English to the mother. Infants who hear two languages simultaneously in their first two years are unable to keep them apart: Leopold's Hildegard tried to fuse German and English into one code, but at about the age of three she began to distinguish them because she always heard German from her father and English from her mother. Adults differ widely in their ability to keep languages apart. Speakers range from those that are virtually native in both and can play all the roles properly to those that have fused the codes to such an extent that they can speak neither with any precision. In the latter cases it becomes harder to identify the points of switching (it has been referred to as "ragged" switching, contrasted with "clean" switching) and one begins to question whether the speakers really have two subcodes, and have not fused them into a single new code in which the common core has swallowed up the subcodes. This is clearly the case in pidgin languages and creoles, where new languages have arisen from contact situations.

As these examples suggest, we have here a third dimension in the study of bilingualism. We have considered "native competence" and "more than one code" as crucial factors; but the third is the problem of *social function*. This affects both the others: native competence is reduced if the stored subcode begins converging towards the other subcode; and the failure to separate subcodes reduces the number of codes in the direction of one. *Code convergence* is therefore the principal problem involved in bilingualism, and this is both individual, since all language is stored in the individual brain, and social, because all language functions in the individual's participation in his society. That this is true is recognized in popular usage by speaking of "language mixture," "corruption," or "gemixte pickles," and in scholarly usage by such terms as "borrowing," "language contact," and "interference." All of these can be regarded as met-

aphorical expressions for what I have here called "code convergence." The code is here used in the widest possible sense, including the purely linguistic and referential code as well as the social and non-referential code that determines linguistic behavior. Both of these are subject to change, both as individual and social norms, and the closer the cultures in which the languages are used approach to one another, the closer the codes will converge, until they either coalesce or one is eliminated as redundant.

The bilingual speaker is thus the focal point of opposing linguistic forces: on the one hand economy of effort drives him to reduce the burden of keeping the two codes apart by identifying as much as possible of them and reducing the extent of the subcodes, while on the other hand, acceptability by the members of two different language communities drives him to make the effort to keep the codes apart. Only when his dual membership ceases, either by his departure from one community to the other, or by the community itself coalescing into another, is his effort useless and convergence results.

In the end the only thing that maintains and sustains the bilingual's efforts to remain so is his identification with a community to whose norms he is submitting himself. This is the reason for my inserting the term "native" with "competence" in our original definition. One can have native competence without being a native, but only by long, early, and sustained effort to become like the natives. Even a foreign accent is a barrier against complete, mutual identification. For this reason any bilingualism that asks for less than native competence is only a modified bilingualism. This is the reason we do not call our students who acquire a foreign language in school bilingual. Bilingualism involves invariably the use of language as a medium, a medium for living and expression, and for interaction without interference. It is quite understandable that bilinguals have sometimes been suspected of divided loyalties when they switched from one language to another; in the case of bidialectals they have been felt as traitors to the local dialect when they switched to the standard language. Unless they have divided loyalties, they cannot be bilinguals in the full sense. But divided loyalty is not necessarily disloyalty; it may mean a combined loyalty to the common core of both languages, to a higher cause than that of one community, and indeed a special kind of loyalty to that bilingual community which attempts to mediate between the opposition of separate groups and to promote the convergence of their codes into a common medium of discourse.

To sum up: instead of including with bilingualism all forms of language learning, I have here tried to set up a definition that would serve as an ideal standard against which such learning is to be measured. I have defined it as "native competence in more than one language" and have tried to show that this involves above all an identification with more than one language community. Some have tried to distinguish bilingualism from biculturalism: I wish to suggest that the two are indistinguishable except in detail. Only a linguist or an anthropologist operating with fictions can separate them; in practice they are inextricably interwoven, and one is quite incomprehensible without the other. Any learning of a language for "tool" purposes is to be excluded from



the concept of bilingualism; only if the language becomes a *medium* for the user's own personality in relation to other members of a language community can he be said to enter into a truly bilingual relationship which is then bicultural as well.

HARVARD UNIVERSITY, U. S. A.

# ON A PRECLASSICAL MONGOLIAN PRAYER FROM OLON SÜME

WALTHER HEISSIG

Twenty eight years ago Shirô Hattori drew in his paper "The Mongolian Documents found at Olon süme, Inner Mongolia"<sup>1</sup> for the first time the attention of Mongolists to this archaeological site by publishing 13 manuscript fragments in preclassical Mongol which had been excavated by the Japanese archaeologist Namio Egami there from an ruined stupa. Up to 1944, the time when Egami could excavate at this site for the last time, it had yielded more than 200 fragments<sup>2</sup> of Mongolian religious and secular texts. These fragments show all typical features of Mss. of the XV.—XVI. century and corroborate by this the information gained from a stone inscription found at Olon süme and dated 1594, e.g. that Olon süme at this period was a centre of Buddhist activity amongst the Yüngsiyebüü-tribe, then residing there.<sup>3</sup> Considering the scarcity of textual material from the so-called preclassical period of the Mongolian language,<sup>4</sup> these manuscripts from Olon süme are of highest value for linguistic as well as literary-historical research.

Amongst the 13 fragments published by Shirô Hattori in 1940 was one folio, numbered fol. 10, of a pothisized manuscript of 19 lines, apparently the fragment of an offering prayer.<sup>5</sup> In 1966 I was given by Prof. Egami kindly permission to work with his manuscripts from Olon süme in preparation of a forthcoming edition of this

<sup>1</sup> *Tôhō Gakuhō* XI: 1940, 257–278 (Jap.); 2 Plates.

<sup>2</sup> 24 of these have been dealt with in my study, "Die mongolische Steininschrift und Manuskriptfragmente aus Olon süme in der Inneren Mongolei," *Abhandlungen der Akademie der Wissenschaften in Göttingen, Phil.—hist. Klasse*, 3, Folge, Nr. 63, Göttingen, 1966.

<sup>3</sup> *Op. cit.*, 17.

<sup>4</sup> Michael Weiers, *Untersuchungen zu einer historischen Grammatik des präklassischen Mongolisch*, Bonn, 1966 (Diss.), 45–58, counts for the span of XV.—XVII. cent. only 19 items, amongst these one collection of 18 Buddhist translations. To these is to add a Ms. of vol. cha of a Mongol Kandjur with 23 translations by Mati bhadra toyin čorji who worked at the beginning of the 17th century (Royal Library Copenhagen, Ms. Mong. 428; W. Heissig, *Entstehungsgeschichte*, 77–84) as well as 14 other translations by the famous translator of the 16th century, Siregetü guosi čorjiva from Köke Khota (W. Heissig, "Eine kleine mongolische Klosterbibliothek aus Tsakhar," *Jahrbuch d. Bernischen Histor. Museums*, XLI/XLII: 1962–62, 576–577. Of two of these translations, Molon toyin eke-dür iyen ači qariγuluγsan kemekü sudur and Milarasba-yin mγur bum exist editions by a Hungarian scholar, Lőrincz László, *Molon szerzetes pokoljárása*, Budapest, 1966, and Lőrincz László, *Milaraspa Életrajaz*, Budapest, 1967, which have been printed as manuscripts only.

<sup>5</sup> Hattori, *op. cit.*, 245–267; fol. 10 in illustration, plate II.

valuable material.<sup>6</sup> During this work I found this fol. 10 again and furthermore another sheet of the same size, written with a reed pen in the same hand on paper of the same colour and texture, apparently belonging to the same work.

This newly-found manuscript fragment measures 9:17,8 cm, consisting like the above-mentioned fol. 10 of 19 lines verso and of 18 lines recto. It bears recto on the left margin the pagination: *dörben*- "four." The duct of the writing is old Uiguro-Mongol writing. The sheet is complete, the writing space being surrounded by the same black double-line like on fol. 10. We have numbered it OSI/10.<sup>7</sup>

This fol. 4 reads:

(recto)

- (1) *amanača aqui čaγan amsaγuri*
- (2) *rasiyan-u em-ün amsaγuri. kiged*
- (3) *čangbu tebseg eldeb-iyer. badma*
- (4) *lingqu-a -yün idegen kiged. eldeb erde-*
- (5) *ni-sün jūmis idegen kiged. qulusun-u*
- (6) *eldeb kib üd-iyer čimegsen. eldeb*
- (7) *jūil-ten modun-i ungqarid-iyar čimegsen.*
- (8) *kūsekūi metü eldeb-iyer beye jiruγ*
- (9) *ud-un čirγulan. joqas-u kir čaγasun*
- (10) *iyar kürün beledügsen. qarlı sudaγa*
- (11) *γulir-iyar egüdügsen kümün kiged.*
- (12) *yerü bügüden tümen čaγan mingγan*
- (13) *qara inu. ermiül(?) jangmu buyan*
- (14) *jaγun čaγan qonin. nangmu sili*
- (15) *jaγun qara otos gürün qaltar jaγun*
- (16) *buqa. gürüde gürü jaγun kentig*
- (17) *aγta. arban tümen mingγan qara*
- (18) *qaltar imagan kiged-iyer eldeb*

(verso)

- (1) *erdeni-siyer ene takil-i. tngri*
- (2) *maqoragi. luusun qad. γaγarun ejed*
- (3) *ta erketen ejed-ün beye-diir beledüyül.*
- (4) *öri-i tölegen-i tula. takimu.*
- (5) *tngri. luus. γaγarun ejen-i öri*
- (6) *tölegen-i tula. takimu. tngri*
- (7) *luus. γaγarun ejen-i öri tölegen-i*

<sup>6</sup> The 28 fragments of a Bodhicaryāvatāra-translation in the version of Č'os kyi 'od zer are ready for publication.

<sup>7</sup> In a final stocktaking of Olon süme-Mss, the first group of 13 fragments published by Sh. Hattori have been numbered OSI/1-17, those turned over to me by N. Egami in 1962 for editing OSII and OSIII, the rest bears signatures OSN/1-174.

- (8) *taqil-iyar bayastuṛai. õglige-yin*
- (9) *eḡen-ü qoyina-ča qasituṛai. ariṛun*
- (10) *siraṛun ḡaṛun aduṛun-iyar jučaṛaqui*
- (11) *bar ṛaḡar qaṛaluṛči. tngri. huus*
- (12) *ṛaḡarun eḡen-dür beledüyü. tngri.*
- (13) *huus. ṛaḡarun eḡen-i ör-i tölegen-i*
- (14) *tula. takimu. tngri. huus.*
- (15) *ṛaḡarun eḡen-i ör-i tölegen-i takil*
- (16) *iyar bayastuṛai. õglige-yin eḡen-ül.*
- (17) *qoyina-ača qasituṛai. nigen jüül-ten*
- (18) *mingṛan alaṛ aduṛun tüberege inu*
- (19) *ṛaḡar ködegeleküi inu. tngri. huus.*

The orthography is a mixed one; we find *taqil* as well as *takil*, *õri* as well as *ör-i*. Particularly rare is the way of combining plural *s* and suffix as in:

*erdeni-sün*  
*erdeni-siyer.*

A few termini need further explanation:

4r, lines 1 and 2: *amsaṛuri* formed from *amsa-*, "to taste" and the suffix *ṛuri* which designates the place where an action is performed,<sup>8</sup> e.g. *amsaṛuri*- "a bite, mouthful, a sample."

4r, line 3: *čangbu tebseg* < Tib. č'an bu~lbu mt'eb skyu,<sup>9</sup> "offering made from barley-flour and adorned by as ymbol resembling a finger (Tib. mt'eb) which is used in magical offerings to gods and demigods."

4r, line 4:

*badma lingqu-a -yin idegen* "Seeds of Lotusflower" (Nelubium nicefera Gaertn.)<sup>10</sup>

4r, line 5: *qulusun-u kib*, "a thin flowered silttissue showing a reed-pattern."

4r, line 8-9: *eldeb-iyer beye jiruṛ ud-un čirulṛan* "a circle of various drawings of people" < Tib. rgyang bu, wooden tablets covered with pictures of deities, substitute for all male and female members of the household, also prepared of dough with the help of a mould.<sup>11</sup>

4r, line 9: *joqas-u kir*, I am not sure of this reading which would be explained as *joṛos-u* [n] *kir* [i] "from the size of a coin."?

4r, line 10: *qarli* < *garali*~*gara* "Saccharum officinarum L."<sup>12</sup>

4r, line 10: *sudaṛa* < Tib. šu dag "Acorus Calamus L."<sup>13</sup>

<sup>8</sup> N. Poppe, *Grammar of written Mongolian*, Wriesbaden 1954, §156

<sup>9</sup> Chandra Das, *A Tibetan-English Dictionary*, Calcutta 1902, 408, 602.

<sup>10</sup> A.F. Gammerman-B.W. Semičov, *Slovar' tibetsko-latin-russkikh nazvanij*, Ulan-Ude 1963, 463

<sup>11</sup> R. de Nebesky-Wojkowitz, *Oracles and Demons of Tibet*, s-Gravenhage 1956, 359.

<sup>12</sup> Gammerman-Semičov, *op. cit.*, 598.

<sup>13</sup> Gammerman-Semičov, *op. cit.*, 21 and 426; P. Aalto, "Notes on the Altan Gerel," *Studia Orientalia* (Fenn.) XN/6, 78.

Handwritten text in a cursive script, likely a manuscript page. The text is arranged in approximately 15 lines, written in dark ink on aged, slightly damaged paper. The script is dense and flowing, characteristic of early modern cursive. The page shows signs of wear, including small tears and discoloration.

Handwritten text in a cursive script, likely a manuscript page. The text is arranged in approximately 15 lines, written in dark ink on aged, slightly damaged paper. The script is dense and flowing, characteristic of early modern cursive. The page shows signs of wear, including small tears and discoloration.



4r, line 13: *ermüü*? I can not explain.

4r, line 13: *jangmu* < Tib.: rkyang mu "female wild ass"<sup>14</sup>

4r, line 16: *gürüde*, perhaps from Skr. Kuruṭin "Horse,"

4r, line 16: *gürü* < Tib. gu-rug "Ass," south-Tibetan pronunciation: guru.<sup>15</sup>

4r, lines 4, 5, 6, 7, 13, 15: *ör-i tölegen~örü töligesün*, "payment of a debt," already mentioned by Mukaddimat ae-Adab: *töle'en*.<sup>16</sup>

Attempting a translation we read tentatively:

"(4r) from the mouth a sample of rice, a mouthful of Rasāyana-medicine, adorned by various handpressed offerings (č'an bu mt'eb skyu), seeds of lotusflowers, and various rare berries and fruits, [adorned] by various silken tissues with bamboo-pattern, adorned by the down of various kinds of trees, by a circle of various portraits as one wishes them prepared on a paper of the size of a coin(?), a [figure of a] man prepared from sugar root, acorus calamus and flour, and as far as they are concerned, all ten-thousands of white ones and thousands of white ones, . . . female wild asses, hundred white sheep . . . hundred black wild yaks from the nangmu hills, hundred dark-brown bulls with white muzzels, . . . \*horses and small asses, hundred fiery geldings, many thousand of black goats as well as by manifold jewels, I am preparing this offering to all the bodies of the powerful lords, to Mahorāga, Dragonkings, masters of the places.

I offer because of repaying our obligations.

I offer because of repaying indebtedness for Heavenlies, Dragons and masters of the places.

Rejoice by the recompensation-offering for Heavenlies, Dragons and masters of the places.

Put up protection behind the almsgiver!

I prepare [the offering] to Heavenlies, Dragons and masters of the places that they bar the country for the growing of pure, yellow hundred horses.

I offer because of paying indebtedness back to Heavenlies, Dragons and masters of the places!

Rejoice by the recompensation-offering for Heavenlies, Dragons and masters of the places!

Put up protection behind the almsgiver!

That [they prevent] the thousand coloured herds of all kinds from stampede, from running free into the country, Heavenlies, Dragons . . . "

The contents of this folio 4 are in relation with those of fol. 10<sup>17</sup> and therefore fol. 4 and 10 can be identified as fragments of a recompensation prayer which used substitute-

<sup>14</sup> Monier Monier-Williams, *A Sanskrit-English Dictionary*, Oxford 1899, 294.

<sup>15</sup> Semičov-Parfionovič-Dandaron, *Kratkij tibetsko-russkij Slovar'*, Moscow, 1963, 12c.

<sup>16</sup> N. Poppe, *Mongol'skij slovar' Mukaddimat al-Adab*, Moscow-Leningrad, 1938, 352b

<sup>17</sup> Shirō Hattori, *Tōhō Gakuhō* XI: 1940, 256-267

offerings made from flour<sup>18</sup> as well as projection-mandalas<sup>19</sup> as shown by the numbering of the animals.

UNIVERSITÄT BONN, GERMANY

---

<sup>18</sup> Nebesky-Wojkowitz, *op. cit.*, 527

<sup>19</sup> B. Grisvold-Kim-Pott, *Birma-Korea-Tibet*, Baden-Baden 1963, 226-27; 228-29.



# TOWARDS A PARSING PROCEDURE FOR SIMPLE SENTENCES IN ENGLISH

ARCHIBALD A. HILL

## 1. STIMULUS AND RESPONSE SENTENCES

Whether the hearer of a simple English sentence consisting of Noun-Verb-Noun is a normal language user, or a linguist intent on investigation and analysis, the first stage in the process of communication is the presentation of an audible stimulus. Such a stimulus is of course framed in a total situation involving the hearer's knowledge of the speaker, the occasion and the locality of the utterance, and above all the 'tones of voice' and body movements which accompany the utterance. Yet while the paper which follows recognizes the importance of this accompaniment, and will endeavour to fit it into its proper place in the communication chain, it will not attempt to describe or analyze the setting. In fact, except for the researches of scholars like Birdwhistell,<sup>1</sup> little has been done on the accompaniment of utterance, so that we are in no position as yet to give the accompaniment the kind of analytical statement which we can supply for much of utterance itself.

The stimulus presented to the hearer is physical and acoustic, though it is not heard solely in physical and acoustic terms. The fact that the sounds of utterance can not be heard merely as a phonograph hears and records them, has caused endless and violent confusion and argument. In what follows, I shall attempt one more attack on this area of confusion, in the hope of clearing up some small portions of it.

What the hearer listens for (it is a truism to say) are the sounds which make differences in his native language because they identify different sentences. That is, since

'I gave it a bat'

and

'I gave it a pat'

are different sentences, the English hearer must be able to hear the difference between the initial consonants of the two last words. I should perhaps (even at the risk of being obvious) make a further very elementary statement. He does not hear letters or spellings, but the sounds the letters or spellings are intended to indicate. He does not even hear sounds as modified by the letters which spell them. The difference can be seen

---

<sup>1</sup> Ray T. Birdwhistell, *Introduction to Kinetics* (Foreign Service Institute, Department of State, 1952).

if we consider such a written sentence as the following

'A large *tear* appeared.'

Though spelled the same, this sequence represents two sentences, not one. That is, the underlined form can be either /tir/ or /ter/, and we do not hear "an /i/ spelled *ea*," or "an /e/ spelled *ea*."

The ordinary user, on hearing a sentence, begins almost as soon as the utterance starts, constructing an internal, perfected sentence, which may or may not match with the incoming spoken sentence. If it does match, then understanding has taken place. If it does not, and the mismatch is not perceived, then misunderstanding has taken place. If it is perceived, then a more deliberate rematch (more or less consciously performed) takes place until the two sentences are a perfect fit.

The process of constructing the perfected sentence can not as yet be fully understood, but it is at least clear that a given physical sentence, even after it has been passed through the process of uttering it properly in terms of all the difference-classes of sounds it should contain, can still be interpreted as two quite different sentences in the internal, perfected stage. Some steps are clear, however, and we shall summarize them briefly. Considered solely in relation to the linguistic contents of the sentence, the hearer interprets in a chain of differential probabilities. That is, such a sound as /ð/ is more probable at the start of a sentence than is /v/. Therefore a hearer will interpret in the direction of /ð/ if the interpretation is at all possible. If he has settled on /ð/, then the next sound is very likely to be /ə/, and if so the next sound in turn is either a pause or a consonant, and is not /ŋ/ and probably not /ʒ/. The same kinds of decisions in terms of probabilities occur in interpretation of entities on higher levels. In the simple example I have given, the first entity was the definite article. Once this is settled on, the hearer knows that the next meaningful form can be a noun, an adjective, or a noun, and can not be a pronoun. This kind of chain of differential probabilities seldom continues until the end of the utterance is reached. At some point or other, the hearer reaches a point at which he predicts with high probability (though not with certainty) the rest of the utterance. At this point he quits listening—and often, indeed, the speaker may quit talking. This kind of chain is a typical Markov process.

It is also, of course, certain that the accompaniments of utterance affect the process of sentence perfection, at all levels from that of semantics on down. A simple example of semantic interpretation in accord with tones of voice and body movements is the girl who says to a boy of her own age 'You're a devil!' With one set of accompaniments it represents admiration, with another, anger. As for interpretation which at least affects the perception of sound, I would cite the television ad for a currently popular cigar "by the makers of /kówlsmðwk/." Listening with the half attention we give to advertising, I heard this the first time as something I would spell as *coal smoke* until I realized that this was ludicrous and that the intended form was *cold smoke*. The advertisers would have been wiser to choose a form which was not ambiguous in speech.

Thus considered, the perfected sentence is subject to restraints from the linguistic, the paralinguistic, and the extra-linguistic (i.e. social) contexts of the utterance. Thus the late J.R. Firth was quite right—language, at least as used, must be fully contextualized, and full contextualization is necessary to interpretation by the ordinary user, and also by the linguist. The only point at which a minor reservation is possible is that the contextualization belongs to the process of constructing the perfected, internal sentence. It does not belong to the external, stimulus sentence. Much of the failure of understanding between neo-Firthians and neo-Bloomfieldians is caused, I think by lack of sharp differentiation between the stimulus and perfected sentences. If they are properly differentiated, a structuralist can not object to the necessity of contextualization, and a Firthian should not object to statements that the stimulus sentence is physical and context-free.

As well as clarifying the confusions between some British and many American linguists, it seems to me that a sharper recognition of the difference between stimulus and perfected sentence should help to clarify the discussion of the relation of speech and writing. It is an important, and yet sometimes misunderstood statement, that writing can be the stimulus as well as the spoken sentence can. For a fully literate reader, the merest glance at a sequence of letters sets him to constructing a perfected internal sentence, which he does not pronounce, but which he 'hears' just as he hears the perfected internal sentence as a response to a spoken utterance. There is, of course, little evidence on the nature of the reader's response to written sequences, but I think most adults can find instances in their own experience where introspection has given some evidence of the working of perfected sentences. One such from my own experience was reading the title of a text-book in a modern-language teachers' journal. The title was 'Polish Up Your German.' The context, full as it was of language names made me 'hear' the sequence *Polish* as /pówliš/, forcing me to rematch to get the proper /páliš/. A similar mistake in silent reading was in reading she 'helped the Bishop in his busy work.' Since the sequence of adjective and noun found here is slightly unusual for me, I perfected as the compound /bíziy + wèrk/, a form which gave an incongruous slight on the Bishop, and one which forced a rematch as /bíziy + wórk/.

The view is advanced from time to time that for literate users of language, written language is more or less independent of speech. Once again, I think it reasonable to hope that separation of the stimulus sentence and the perfected sentence clarifies the relationship. There is no evidence that I know of which supports the idea that a perfected response to writing consists of letters. There is some, though it is admittedly scanty, that suggests that the perfected response in reading is identical with the perfected response in listening to speech. In this connection, I have heard it advanced that a literate user of language uses writing independently of speech all the way up to the final analytical stage of semantic interpretation. The statement seems to me to be true, if at all, only in so far as it is true (as I have tried to suggest) that the construction of the perfected sentence makes very rapid use of probabilities from all levels of inter-

pretation, from phonological to semantic.

This view of the relation of speech and writing, as equivalent stimuli for the same type of perfected sentence, has some bearing on the foreign-language learning situation. The student of a foreign language whose mastery is imperfect, tends to work through books, and so to have only one type of stimulus to which he reacts readily—that of writing. He constructs a satisfactory perfected sentence from the written forms, but his knowledge of speech is apt to be far too closely limited to production of spoken forms as a final stage of response to writing. He does not know the relation of spoken stimulus sentences to perfected sentences, and so does not “understand” the foreign tongue when he hears it spoken by a native. Obviously, therefore, effective foreign language teaching should make great and frequent use of practice and drill in construction of perfected sentences from spoken stimulus sentences.

## 2. ANALYSIS OF THE STIMULUS SENTENCE

Up to this point I have been speaking of the way in which the ordinary language-user reacts to a stimulus sentence, with a perfected sentence constructed in terms of probabilities drawn from all levels of analysis. Further, I have suggested what seems to me inescapable, that an ordinary language-user listens to no more of the stimulus sentence than is necessary for him to construct a perfected sentence which he believes to be a satisfactory match. It must be admitted, also, that the ordinary hearer often matches on very little evidence. However, as I have said before, the stimulus sentence is momentarily carried in memory, so that it can, so to speak, be replayed (consciously or unconsciously) to produce a rematch if it is needed. Thus the whole of the stimulus sentence is important, not merely the first few sounds in it, since it is not predictable exactly what part of it is going to be needed for rematching.

If we think of a complete communication event, then, the first immediate constituent to be cut off is the stimulus sentence, which is where the hearer's interpretation begins, and which it must then be the analysts' first task to isolate and describe. I believe that in doing so, the analyst has two tools. In describing these tools, and the structural map which results, I shall use the terminology, and follow the principles laid down in my article “Non-Grammatical Prerequisites.”<sup>2</sup> The first tools that the analyst uses are sounds which differentially identify meaningful forms. That is, if a difference produces, anywhere in the language, identification that the sentence containing sound A is sentence one, and the sentence containing sound B is sentence two, then A and B are significantly different sounds, and the difference is relevant to the language in question. The simple task of permuting differences as in “I gave it a pat,” versus “I gave it a bat” gives a starting point for description of stimulus-sentence phonology. As many scholars have pointed out, however, permutation can not give a neat system for all the differences in the language. For instance, it is impossible to find a permuted

<sup>2</sup> *Foundations of Language*, 2 (1966), pp. 319–37.

set which shows /ž/ as a sound differentiating meaningful forms as freely as other consonants do. The analyst here uses what may be called differentiating features. That is, he abstracts from differences like *bat:pat* and *raise:race* a difference which he calls (or may call, since analysts differ) voice, which is different from voicelessness. He then finds that there is a pair of sounds /ž/ and /š/ which differ in the same way as /z/ and /s/, and he makes use of the analogy to come to the conclusion that /ž/ is also a sound significantly different from other sounds, even though he can not set up a permutational system to show it on first inspection.

The sum total of differentiating sounds, shown by permutation and analogical abstraction, constitute the relevant phonetics of the language being studied, and every sound which occurs is a member of some difference-class. The difference-classes are made up of sounds many of which may be physically different, but which are grouped together because 1) the differences between them do not identify different meaningful forms, and 2) the distribution in utterance of various members of the same difference-class is statable by rule.<sup>3</sup>

The analyst's statement of stimulus phonology must take account of all the difference-classes which occur in the sentence, since otherwise he has not recorded all the material available for the hearer-interpreter. Thus the first criterion for a description of difference-class phonology is that it must be complete, even though once the sentence has been fully analyzed some of the differences which characterize the sentence can be shown to be irrelevant, since they do not here distinguish different meaningful forms. Secondly, and less importantly, the description should be as regular, that is, as symmetrical in terms of occurrences of differentiating features, as possible. This criterion is a corollary of the fact stated above, that analogical analysis is necessary for dealing with those sounds which can not be permuted.

What is most important, however, is recognition of the fact that stimulus-sentence phonology is a recording of physical events, classified, it is true, according to their use in a given language. The result of this statement is then a denial that there can be any 'zero forms' in difference-class phonology. For instance, as stated above, both *cold smoke* and *coal smoke* contain a first element which is /kowl/. Only if we know, or have guessed, that the first element must be identified as *cold* are we justified in saying that a /d/ has been lost, or that a zero element is present. If we are considering strictly the relevant sounds which occur in a given utterance, then we can not say that a sound is both present and absent, or is there even though it isn't. I need not insist, of course, on the fact that this is a point on which analysts differ violently. For our

<sup>3</sup> I have throughout avoided such terms as phoneme, allophone, and even contrast and distinctive feature, since these terms are nowadays confusing because used with radical differences by transformational-generative grammarians and others. My terminology is of course clumsy, but at least is not a trap for the unwary. It is also to be noted that the statement that the occurrence of differing members of the same difference-class is determinable by rule, is a rejection of 'free variation.' I believe that free variation is either below the linguistic threshold, because nowhere in the world used to differentiate forms, or is a product of differing styles, idiolects, or both.

purposes, however, it is sufficient to point out that zero forms can not be ascribed to stimulus-sentence phonology. Any form of phonology which employs them is either perfected-sentence phonology, or is what is less justified, an uncontrolled mixture of stimulus-sentence and perfected-sentence phonology. One of the ways in which this difference between analysts has produced most bad blood is in dealing with the entities usually called junctures. If they are grammatical phenomena, they can not occur in difference-class (or stimulus-sentence) phonology. If they are forms which occur in difference-class phonology they must be physically identifiable events, and so can not be merely grammatical events. I believe that what is important to difference-class phonology is always physical, so once again I avoid a familiar term. In difference-class phonology there are no word, or word-element, boundaries as such. There are boundaries between syllables, which are readily audible, as are the syllable differences in three differing pronunciations of the phrase *at all*; that is, *at all*, *a tall*, *atall*. What we deal with on the stimulus-sentence level, is the presence, absence, and position, of physical syllabic separators, which like other sounds occasionally serve to differentiate utterances, though they do not always do so. Thus I do not use the term juncture. In stimulus-sentence phonology I use the term separator, short for physical, syllabic separator. In perfected-sentence phonology I use the term grammatical boundary.

It is less relevant at this point to state what system of description and transcription should be used in the analyst's statement of stimulus-sentence phonology. I prefer to use the Trager-Smith system, which I find adequate to recording my idiolect, whether or not it is equally adequate for others. There are features of the system which may eventually turn out to be irrelevant, but so far as I have as yet been able to test possible differences recorded in Trager-Smith notation, juries seem able to recognize them. It is also true that as far as I am able to test, all differences recorded in this system actually characterize different utterances, and that while there is much more that a jury can recognize as physical difference, these other differences (with some exceptions) belong outside the linguistic system. The Trager-Smith system, however, is to be regarded as a hypothesis of the difference-classes of English stimulus sentences, and their relations to each other. Like any other hypothesis it is subject to change and correction, and the possible later discovery that it is false would not prevent the formation of other hypotheses.

To state the main outlines of this system as I use it, however, is perhaps worth while. I recognize twenty-four consonants, of which three are semivowels. The semivowels are /y/ and /w/, together with the third which I find convenient to write as /h/, though many analysts object to this writing. There are nine pure vowels, all of which occur under stress and between consonants. (Some idiolects, employ ten, or nine differently arranged from mine.) Syllables are defined as sequences containing one vowel, and one vowel only, so that the number of syllables is equal to the number of vowels. There is a syllabic-separator written /+/, and three terminals which occur at the ends of phrases. Note again that these are not grammatical but physical entities. There

are four stresses, the strongest of which is the peak of a phrasal stress pattern. It is, in other words, a word-stress raised to sentence-stress level. There is one such strong stress, and only one, in each phrase. There are four pitch levels, from /4/ the highest, to /1/ the lowest. There are of course many more pitches, but at present, these seem sufficient to describe the linguistically relevant structures. Length does not occur as linguistically relevant in my idiolect, though of course it is a part of my paralinguistic and stylistic system. For those idiolects which employ pure length, a simple phonotactic rule is that long vowels are geminates, and that all geminate vowel clusters are to count as one syllable.

We can now say that the first thing cut off from the totality of a sentence is the stimulus. When this is done, what is left is the hearer's sentence, which I have called the perfected sentence. The stimulus sentence, as one constituent of the total sentence, is subject to various other cuts giving constituents on various levels, all of which are physical entities, and in themselves meaningless. I refer to such entities as the pitch pattern, consisting of pitches and terminals, the several stress patterns, consisting of stresses and separators, and the units of segmental sounds consisting of vowels and consonants, cut into blocks by the occurrence of separators and terminals. The structure here need not be described fully—a description of it can be found in *ILS*.

For our purposes, we shall limit our discussion to simple sentences of the Noun-Verb-Noun type, and take as our type example the following—

'A boy plays a game.'

This sentence has been chosen to avoid irregularities, and will give us, if needed, a set of variations in closely related sentences different only in number and tense, such as

'Boys play games,' and 'A boy played a game.'

Our stimulus sentence, in a complete notation gives the following

$\overset{2}{/}\overset{2}{\text{ə}} + \overset{2}{\text{b}}\overset{2}{\text{ɔ}}\text{y} + \overset{2}{\text{p}}\overset{2}{\text{l}}\overset{2}{\text{ɛ}}\text{y}\overset{2}{\text{z}}\overset{3-1}{\text{ə}} + \overset{3-1}{\text{g}}\overset{3-1}{\text{e}}\text{y}\text{m} \# /$

This form gives the pitch constituent /22223-1 #/ and

$/\overset{2}{\text{ə}} + \overset{2}{\text{b}}\overset{2}{\text{ɔ}}\text{y} + \overset{2}{\text{p}}\overset{2}{\text{l}}\overset{2}{\text{ɛ}}\text{y}\overset{2}{\text{z}}\overset{3-1}{\text{ə}} + \overset{3-1}{\text{g}}\overset{3-1}{\text{e}}\text{y}\text{m}/$

This remainder, in turn, gives a series of constituents which are mechanically analyzable by cutting off one at a time, thus—/ə/ and /bɔy + plɛyzə + géym/ the next being /bɔy/ and remainder. The form /+bɔy/ is separable into two ultimate constituents, /+^/ and /boy/. The only other cautionary note to add at this point is that one of the constituents is /+plɛyzə/, which breaks down into /+^~/ and /pleyzə/. It can not be separated into its grammatical components, /plɛy/, /z/ and /ə/ on this stimulus level. Such an analysis is possible only for the perfected, internal sentence. It is the perfected sentence which we shall confine ourselves to in what follows.

### 3. THE PERFECTED SENTENCE

The perfected sentence must be different from the stimulus sentence in at least two ways. First, it must be supplied with a full set of grammatical boundaries which

replace the separators. It is impossible to hear a chain of sounds in one's native language without assuming that there are grammatical boundaries within it, and impossible to interpret such a chain without assigning them to their proper positions. It is also impossible to interpret a chain of sounds without guessing at the identity of the meaningful forms it contains. Thus the meaningful forms are certainly normalized in the perfected sentence, at least to the extent of resupplying consonants and vowels which are dropped out of the stimulus sentence. Thus, as said earlier, a form such as *cold* in *cold smoke* is usually pronounced without a /d/, but the form of the word in a perfected sentence would be /kowld/. I think there is still another way in which the perfected and the stimulus sentence differ. I find it very hard to understand the long controversy over juncture as physical or grammatical event, and the even more astonishing difficulty of hearers in deciding whether or not the kind of event which I have called a physical syllabic separator is or is not present, unless we further assume that the perfected sentence substitutes grammatical boundaries for the separators, that is, the perfected sentence substitutes grammatical for physical entities. It is demonstrable that there is no separator between *plays* and *a*, but the hearer recognizes that there is a grammatical boundary between them. Thus our sentence can now be rewritten as the following, with non-physical, non-audible boundaries written with dashes:

<sup>2</sup> /ə-<sup>2</sup>bôy-plêy-<sup>2</sup>z-ə-<sup>2</sup>gêym<sup>3-1</sup> #/

It is a serious, and I think an unsolved question how far the process of normalization goes in the process of the hearer's automatic recognition of the stimulus sentence. Chomsky has claimed that the underlying form of *courageous* should be something like /kərəæg/ since the final consonant behaves in a way which suggests identifying it with *rigor*, *rigid*. Whether or not Chomsky is right in this assertion, one can doubt that the naive expert speaker restores any such underlying form as that proposed by him. It is certainly true that the native speaker knows the rules by which variant occurrences of words and word elements vary—that is, he knows that the final consonants of *laugh* (noun) and *calf* do not combine with the plural ending with the same modifications, but I think it unlikely that in perfecting sentences, the hearer refers the two /f/s to differing classes. At least one bit of evidence can be drawn from rhyming habits. *Laugh* and *calf* are a perfect rhyme, no matter whether the two /f/s belong or do not belong to the same morphophonemic class.

In supplying the perfected sentence with grammatical boundaries, and disregarding the syllabic separators, the hearer has to make use of probabilistic guesses as to what the entities are. For instance, it is usual that a schwa before a stressed syllable (in many situations, at least) represents an indefinite article. It need not do so, however, since it might represent the first syllable of *attack*, though in my experience, *attack* and *a tack* differ in the rest of their relations to syllabic separators.<sup>4</sup> The first vowel of *attack*

<sup>4</sup> See my note, "The Audibility of /+/,", *The Journal of the Canadian Linguistic Association* 5 (1959),



is preceded as well as followed by a separator; the first vowel of *a tack* is followed, but not preceded by one. At any rate, however, in interpreting *a game* as article and noun, the hearer makes full use of all cues, from context and from phonology both.

In constructing his perfected sentence, the hearer must hold the various parts in suspension, so to speak, until he hears the intonation pattern which tells him the sentence is complete. In this sentence, the pattern is essentially the /3-1 #/ which falls on *game*. As a pattern entity, it has variants which correspond to the number of syllables which precede the primary stress, and still others which correspond to the number of syllables which follow it. There is a second element of intonation which I have disregarded since it forms no part of our example. This is the element of emphasis, secured by raising pitch, or by varying position of the primary stress, or both, and which has the function of telling the hearer where information is concentrated in the sentence.

In following the steps of the hearer's interpretation, we can now suppose that he has fully identified the meaningful elements, and that he has taken off the first immediate constituent, the intonation pattern. It is important to note that this constituent is sliced off horizontally, since it forms a layer-type of constituent, rather than a link-type. What is left is now

/ǝ-bôy-plêy-z-ǝ-géym/

Hereafter, the steps of interpretation, and so the cuts by which we represent them, proceed vertically. Not only do they proceed vertically, they proceed on the assumption that the segmental elements with which we are now dealing all consist of three parts—the vowels and consonants of which each is made up, the stress pattern with which each is accompanied, and finally the syntactic-semantic identity of each. It is worth laying some special emphasis on this last statement, that the segmental elements are accompanied by syntactic-semantic elements which are integral parts of each segmental unit. First of all, it is only at this stage that I think semantic content is encountered. Put another way, it is only when the sentence is put into the hearer's head that it has meaning. Whether the perfected, internal sentence is a response to sounds or to letters, the stimulus is meaningless. Siamese is meaningless to me, since I do not speak the language, but is meaningful to a Thai, who can form the proper response sentence in response to Thai sounds. Similarly, Thai writing is meaningless to me, but not to a Thai.

Second, there may be some difficulty in my description of this element of the internal sentence as syntactic and semantic, rather than as one or the other. What I mean becomes plain, I believe, if we look at a genuinely ambiguous spoken sentence.

Attack is the best defense.

A tack is the best defense.

*Attack* and *a tack* are different in meaning, of course, but they are also different in

syntax. If *sharp* is added to both sentences, it occurs first in one,

Sharp attack is the best defense

but second in the other

A sharp tack is the best defense.

I can see no reason for saying that meaning is due to syntax, or that syntax is due to meaning. The entities, attack and a tack, are simply different in both and the resultant identity is indissoluble.

I believe, therefore, that at this point the hearer-interpreter begins a series of vertical cuts. The first set are, I think, double, giving three sentence elements, noun phrase, verb, and noun phrase. This is not the usual cut, since both transformational-generative grammarians and traditionalists cut the sentence at this point into two constituents, noun phrase, and all that follows, called the verb phrase. In my view, however, there is no more reason for cutting between subject and following verb than there is for cutting between the verb and the following complement. If we cut between subject and verb, we disregard the ties of concord that exist over that particular boundary. There are subjectless sentences, of course, but most of them are of a single type—imperatives. If we cut between verb and complement we find ourselves with a few sentences which are unsatisfactory, since some verbs require a complement, as does *murder*. Many more sentences remain viable if the complement is cut off, as does our sentence 'a boy plays a game.' For these reasons I now cut into three main sentence elements, though if my reader prefers the more traditional cut into noun phrase and verb phrase, I have no very strong objection.<sup>5</sup>

The various parts of which the sentence is composed can again be cut. 'A boy' gives two more segmental units, the article and the noun. At this point, however, vertical cutting ceases, and each element is cut horizontally into its segmental phonological elements, and the stress which accompanies it. There is a remaining cut, which can not be described as either vertical or horizontal, though I am reasonably certain that it is made before the cut into vowel and consonant elements on the one hand, and stress on the other. This is the cut of syntactic-semantic identity, which must be made before stress and vowel-consonant elements are taken off, since they contribute to it, and are necessary to it.

I have given, I hope, a reasonable though sketchy picture of the process by which the hearer interprets sentences he hears. I have tried to avoid giving the impression that interpretation is an automatic response to phonology. We do not hear by any process of adding up the vowels, consonants, stresses and pitches, and giving the sum total whenever we reach a pause. In fact, the empty little sentence I used as an example was chosen at least in part because its phonology departed in one spot at least, from the interpretation. It will be remembered that the sequence

<sup>5</sup> For a good discussion of the problem, taking up a similar position, see M. Grady, "Discussion: A Note on the Theory of the Primary IC Cut in English," *Glossa*, 1 (1967) pp. 68-74.

'plays a game' came out as /...<sup>2</sup>plēyzə<sup>2</sup>+gēym<sup>3-1</sup>#/ with the indefinite article fastening itself to the verb as a sort of enclitic, instead of falling into place in the following nominal element where it belongs grammatically.

I have also tried to insist that there is some reason behind the common belief that writing is somehow independent of speaking, since writing and speech can both act equally well as the stimulus for the internal response sentence. I have also tried to describe the point in the chain of communication at which I believe that meaning enters, though the meaning which I have described is not semantic alone, but semantic and syntactic, amounting to an indissoluble identity. And finally, I have tried to suggest as clearly as I can, that it is necessary to assume that the relationship between the meaningful, internal sentences, whether they are those of the speaker or of the hearer, show a two-way relationship with the external and meaningless stimulus sentences. That is, we have not described this relationship adequately if we content ourselves with showing the morphophonemic rules by which full forms become the so-called degenerate signals which are all that enters our ears. We must also show how these degenerate signals are remade into the meaningful chains of morphemes with which the process started.

UNIVERSITY OF TEXAS, U. S. A.

# "CASE" FROM A NEW POINT OF VIEW

KAZUKO INOUE

## 0. Introduction

There have been some interesting discussions going on concerning the so-called cases.<sup>1</sup> The discussions have mostly been centered on the problems in English, and a few adequate proposals have been made for the treatment of cases and related problems in terms of generative theory. Research in Japanese has shown the adequacy of some of the proposals, but it has also revealed some linguistic facts overlooked in the previous works. Some problems discussed here give support to previous works, while others indicate the necessity for improvement. The following are the problems to be discussed in this paper:

1. Relations between the subject of the intransitive sentence and the object of the transitive sentence (Section 1)
2. The relation between "source" and "goal" on the one hand, and "agent" and "dative" on the other (Section 2)
3. The status of Agent (Section 3)
4. The status of Locative (Section 4)

### 0.1. The base rules:

The initial symbol of the categorial rules in this grammar is Prop (Proposition), but in a fuller grammar Prop is derived from S.

0-(1) Given: #Prop#

- i. Prop  $\longrightarrow$  NP VP
- ii. VP  $\longrightarrow$  (D)  $\left\{ \begin{array}{l} \text{Prop} \\ \text{Nuc} \end{array} \right\}$  V

iii. Nuc  $\longrightarrow$  (NP  $\text{X}$  Source  $\text{X}$  Goal  $\text{X}$  Loc  $\text{X}$  Means  $\text{X}$  Place) Pred<sup>2</sup>

<sup>1</sup> Barbara C. Hall, "Subject and object in Modern English," Ph. D. thesis, MIT, 1965. Charles J. Fillmore, "A Proposal Concerning English Prepositions," Georgetown University Monograph No. 19 on Languages and Linguistics (1966) 19-34. Charles J. Fillmore, "Case for Case" to appear in Emmon Bach and Robert Harms, eds., *Proceedings of the Texas Symposium on Language Universals*, April 13-15, 1967 (Holt, Rinehart, and Winston). Mantaro J. Hashimoto, "The Internal Structure of Basic Strings and a Generative Treatment of Transitive and Intransitive Verbs," unpublished paper read at the International Seminar in Linguistic Theory, Tokyo, August 25-Sept. 5, 1966.

<sup>2</sup> Prop=Proposition. D=a dummy symbol which is to be replaced with a non-dummy symbol by a transformation. D is distinguished from the other dummy symbol  $\Delta$ , which is dominated by a lexical category. Nuc=Nucleus. Pred=Predicate. Loc=Locative. Following Fillmore, I use the linked parentheses to indicate that at least one of those enclosed by them should be chosen. Source,

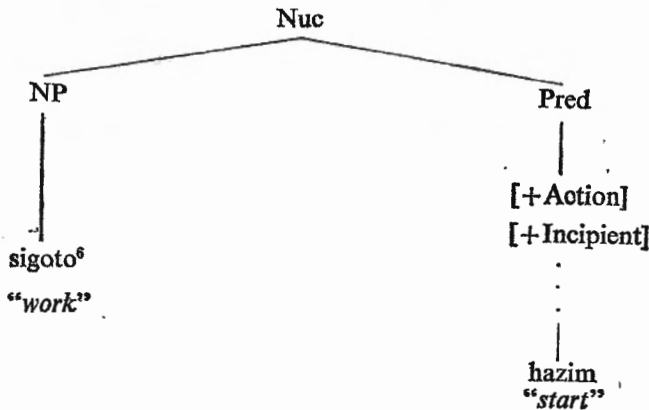
iv. {Source, Goal, Loc, Means, ...}  $\longrightarrow$  NP<sup>3</sup>

v. {NP, V, Pred}  $\longrightarrow$   $\Delta$ <sup>4</sup>

Each lexical item to be inserted under Pred is without a feature indicating its part of speech; i.e., no indication is given at this stage as to whether it is a verb, an adjective, or an adjectival noun, or even a noun. As the distinction between these parts of speech is mostly relevant to morphological processes, the item inserted under V carries the feature specification [+VS], [-VS], [+NP] [-NP]<sup>5</sup>.

The elements dominated by Nuc are, therefore, merely relational. 0-(2) is a sample of the derivation from Nuc.

0-(2)



As is well known, there are quite a few verb stems which are neutral as to the distinction between intransitive and transitive. *hazim* "start" is one of them. *Ar* in intransitive verb *hazimar* is an intransitive formative. *E* in transitive verb *hazime* is a transitive formative. *Ar* and *e* are not the only representations of the intransitive and transitive morphemes respectively, but there are several allomorphic variants of them. In this grammar, each of the so-called intransitive and transitive formatives carry its

Goal, Loc, Means, and Place are all relational phrases. There may be some other relational phrases, but we limit our discussion to those listed here.

<sup>3</sup> For ease of exposition, NP is not developed any further, because it is not discussed in this paper. Consequently [+NP], instead of [+N] is a feature which appears in feature sets of nouns.

<sup>4</sup> The grammatical model employed in this paper is the second model suggested by Chomsky in *Aspects of the Theory of Syntax*, pp. 120-123. Therefore, each lexical category is rewritten as  $\Delta$  by the final categorial rule.  $\Delta$  does not appear in most of the P-markers presented in this grammar, since it is replaced by an appropriate lexical item by a substitution transformation.

<sup>5</sup> [ $\pm$ VS] is a feature which determines morphological shapes of verbals. Verbs and Adjectives have the feature [+VS] and [-VS] respectively, and adjectival nouns such as *suki* "fond of" and *sizuka* "quiet," have the features [-VS] [-NP].

<sup>6</sup> It is taken for granted that any lexical item which substitutes  $\Delta$  under NP, e.g., *sigoto* "work," stands for a set of syntactic, phonological, and semantic features. The strict subcategorization of Pred is carried on in terms of the elements with which it co-occurs in a string dominated by Nuc. Selectional relations hold between Pred and the NP immediately dominated by Nuc.

morpheme class number, and the stems which co-occur with it have the same number specification. For example, if *ar* is numbered as MC<sub>10</sub>, and *e* as MC<sub>20</sub>, neutral stems such as *hazim*, *uzum* "bury," *ud* "boil," *ag* "raise—rise" carry both MC<sub>10</sub> and MC<sub>20</sub>. Only when the number of the stem and that of the intransitive or transitive formative match, the copying (T4) takes place. (See page 250.) Nucleus embedding is blocked if T4 is not applied.

There is another group consisting of forms which are usually taken to be basically intransitives from which transitives are derived by adding the transitive formatives. There is still another group with members basically transitive from which intransitives are derived by a similar process. These forms do not pose a complicated problem according to this scheme. Basic forms of either group are inserted under Pred, and basically intransitive forms are matched with the intransitive formative which does not carry phonological matrices. For example, if the phonologically zero intransitive formative is specified as MC<sub>11</sub>, then the stems such as *ak* "open," *tat* "stand," *tuzuk* "continue" carry the number MC<sub>11</sub> and MC<sub>20</sub>. The result of copying *ak* next to  $\phi$  will be intransitive *ak*, and *ak*+*e* will be the transitive *ake*. Basically transitive forms undergo the same process. Those intransitive stems, such as *ar* "exist" and *ir* "need," which do not have transitive counterparts, have only the number specification of the phonologically zero intransitive formative, i.e., MC<sub>11</sub> in the above example. The transitive stems such as *tatak* "hit" and *koros* "kill" carry the number specification of the phonologically zero transitive formative, say MC<sub>21</sub>.<sup>7</sup>

### 1. Relations between the subject of the intransitive sentence and the object of the transitive sentence

First of all, the dummy symbol D and the NP's dominated by relational elements undergo the following copying transformations:<sup>8</sup>

$$\begin{array}{lcl}
 \text{T1. } D-X- & \left[ \begin{array}{c} [+V] \\ [+Obj] \\ [+Agt] \\ [+Loc] \end{array} \right] & \longrightarrow \left[ \begin{array}{c} [+D] \\ [+Obj] \\ [+Agt] \\ [+Loc] \end{array} \right] -2-3 \\
 \quad 1 \quad 2 & \quad 3 & \quad 1
 \end{array}$$

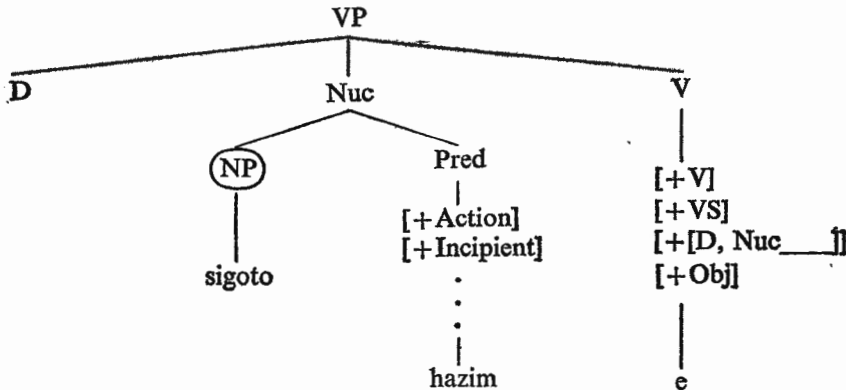
$$\text{T2. } [+NP]_X \longrightarrow [+NP, +X]_X \quad X = \left\{ \begin{array}{l} \text{Source} \\ \text{Goal} \\ \text{Loc} \\ \text{Means} \\ \vdots \end{array} \right\}$$

<sup>7</sup> Bloch treats this problem in "Studies in Colloquial Japanese III: Derivation," *Journal of the American Oriental Society* (1946). A generative approach to this problem is "Intransitivization, Transitivity, Polarization" by Keiichiro Okutsu (1967). The approach taken in this work is basically different from the above, since these phenomena are not treated here by independent transformations as in Okutsu's work, but in terms of a total syntactic framework. Details are worked out in the rest of this paper. The three dots above *hazim* in 0-(2) mean "and other relevant features."

<sup>8</sup> Obj=object, Agt=agent, Loc=locative

The following is an example of Prop whose VP dominates D, Nuc, and V. The structure of this VP is 1-(1) with 0-(2) as its nucleus. The feature  $[+D, Nuc\_]$  is a strict subcategorization feature associated with  $e$ , in this case, which designates that this lexical item should be inserted in the environment of D and Nuc, but not in the environment of  $[Nuc\_]$ , or  $[D, Prop\_]$ , or  $[Prop\_]$ . The co-occurrence restrictions holding between the circled NP<sup>9</sup> and Pred are stated as one of the features associated with each lexical item to be inserted under Pred. T1 copies the feature  $[+Obj]$  onto D, resulting in some such representation as:  $[+D, +Obj]$ .

1-(1)



Next T3 adds all the features associated with the lexical item under the circled NP to  $[+D]$ ,  $[+C]$ .

1-(2) T3

$$\frac{\frac{[+D]}{1} \quad \frac{[[+NP]]}{2} \quad \frac{X}{3}}{[+D] \quad [+C] \quad [+NP] \quad [\alpha]} \quad V \rightarrow \frac{[+D] \quad [+C] \quad [+NP] \quad [\alpha]}{1} \quad -2-3$$

Condition. If in  $\frac{[+D]}{[+Agt]} \quad \frac{[[\alpha]_{NP} X]}{[\alpha]_{Prop}}$ ,  $[\alpha]^{10}$  should contain  $[+Animate]$ .

This rule states that D should get the copy of all the features of the NP directly dominated by either Nuc or Prop in its strict subcategorization environment.<sup>11</sup>  $[+C]$  stands

<sup>9</sup> Circles, boxes, and triangles are used for ease of explanation, but not as part of the grammar.

<sup>10</sup>  $[\alpha]$  stands for the feature set dominated by the NP in the environment stated below.

<sup>11</sup> Actually this rule may be too specific and better stated in more general terms, such as "upward bounding," "commanding," and so forth, proposed by John B. Ross, "Constraints on Variables in Syntax," Ph. D. thesis, MIT, 1967. But work on Japanese nominalization should precede such a restatement. A strict subcategorization environment is an environment shared by the terms directly dominated by a single node. In this case NP, Nuc, and V are in a strict subcategorization environment directly dominated by VP. Concerning feature copying, relevant suggestions were given to me by Kinsuke Hasegawa and Mantaro Hashimoto.

for "case," representing [+Obj], [+Agt], or [+Loc]. The condition stipulates that only the features of animate nouns are copied onto D with [+Agt]. (See Section 3.)<sup>12</sup>

After the application of T3 the second term is deleted, since it satisfies the identity condition for deletion.

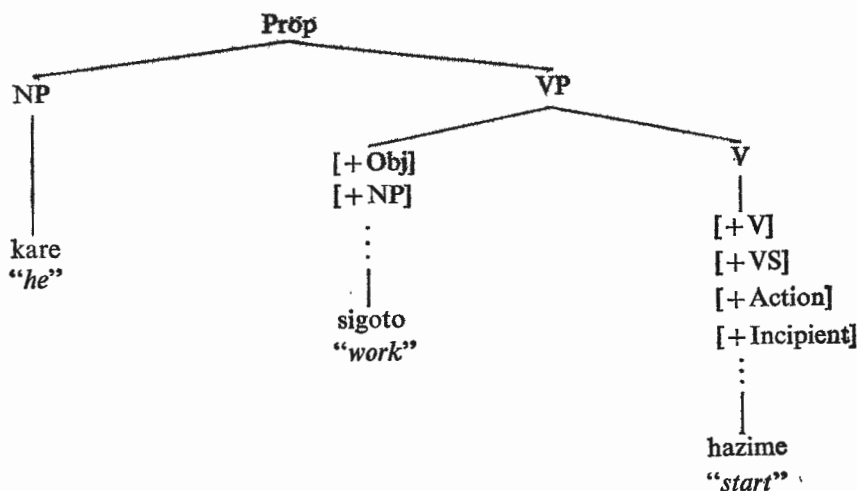
Next the features under Pred are copied onto the feature set dominated by V, if the morpheme class number of a stem is the same as that carried by an item under this V (1-(3)). Nuc without the dominated obligatory node is deleted,<sup>13</sup> resulting in 1-(4).

$$1-(3) \text{ T4 } \frac{\text{X} \left[ \underset{1}{\text{Y}} \left[ \underset{2}{\beta} \right]_{\text{Pred}} \right]_{\text{Nuc}} \left[ \underset{3}{\gamma} \right]_{\text{V}}}{\underset{2}{\quad} \underset{3}{\quad}} \longrightarrow \frac{1-\phi \left[ \underset{2}{\beta} \right]_{\underset{3}{\gamma}}}{\underset{2}{\quad} \underset{3}{\quad}} \text{V}$$

if  $n=n'$ , where  $[\text{MC}_n]_{\text{Pred}}$  and  $[\text{MC}_{n'}]_{\text{V}}$

1-(3) stipulates that the feature set under Pred ( $[\beta]$ ) be copied onto the feature set under V ( $[\gamma]$ ).

1-(4)



Note that *hazime* is a "tenseless" form, since Prop does not dominate Tense.

As is noted by Hall and Fillmore, the subject of a sentence with a transitive verb is usually an animate noun, and exceptions may be personified inanimate nouns. However, such personification does not occur at random. An instance which immediately

<sup>12</sup> As is the case of the subject of the transitive sentence, which is discussed in the following few pages, not only animate nouns but some inanimate nouns appear in the agent phrase. One example is a group of inanimate nouns which refer to movable things, as in: *watashi wa ame ni hur rare ta* "I got caught in the rain." *hune ga nami ni nom rare ta* "The boat was swallowed up by the wave." (The idea of movable inanimate nouns was suggested by Roland Lange. (personal communication))

<sup>13</sup> See 1-(17) T5.



comes to mind is a group of inanimate nouns which usually stand as subjects of transitive sentences. They are nouns referring to things steered by human beings, such as *torakku* "truck," *deńsya* "train," and *takusii* "taxi"; e.g., *torakku ga hito o hiita*, "A truck hit a man." It is interesting to note that the verb *i*, "be, stay," usually takes animate nouns as the subjects of the sentences in which it occurs. Here, also, these inanimate nouns are permissible, as in the following sentence. 1-(5): *torakku ga iru* "There is a truck." Selectional restrictions of this kind on the subject of transitive sentences can be stated as a convention since it is most likely a language independent feature. Some other inanimate subjects of transitive sentences are transformationally derived. The derivation of this kind is explained in Section 4.

As is shown by 1-(7) and (8), the subject of an intransitive sentence is identical with the NP directly dominated by Nuc. This means that the NP directly dominated by Nuc will be either the so-called object of a transitive sentence or the subject of the related intransitive sentence. This fact was given explicit statement by Hall for the first time, and has been developed and integrated in his "case grammar" by Fillmore. Within the framework of this grammar there are two alternatives for the statement of this fact. One is to generate D for the subject of intransitive verbs, since a slight extension of T1 would take care of this case. And if we do the same to the transitive subject, it will lead to establishing Agent as one of the relational elements of Nuc, so that it may replace this dummy. However, there is no strong motivation for doing that, since there seems to be only few specific selectional relations holding between the transitive subject and verb. Moreover, all transitive sentences, including causatives, can be derived in the same way, if we are satisfied with the specification that their subjects are usually animate, with some exceptions of personified nouns.

The other alternative would be to state a condition to the effect that the subject of an intransitive verb be identical with the NP directly dominated by Nuc. We choose the latter, but in this grammar this should be handled in a more adequate way, since here the distinction between the transitive and the intransitive sentence is not important, but the distinction between matrix strings with D and those without it is crucial. Therefore, in our procedure we first set up the following condition.

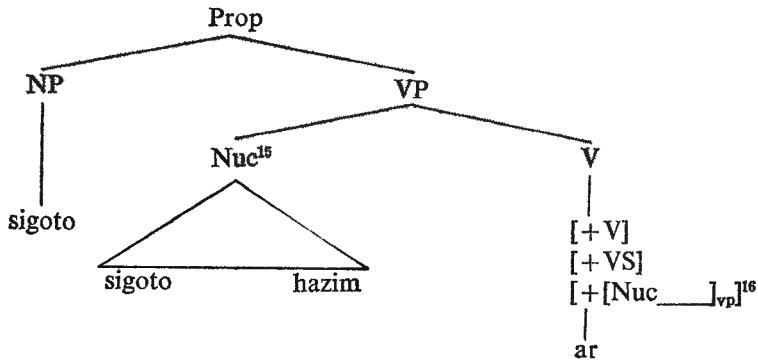
1-(6) Condition I:<sup>14</sup>

$$\text{In } [\text{NP } [\text{NP } \underset{1}{Y} ]_{\text{Nuc, Prop}} \underset{2}{V} ]_{\text{1=2}} \underset{3}{V} \underset{4}$$

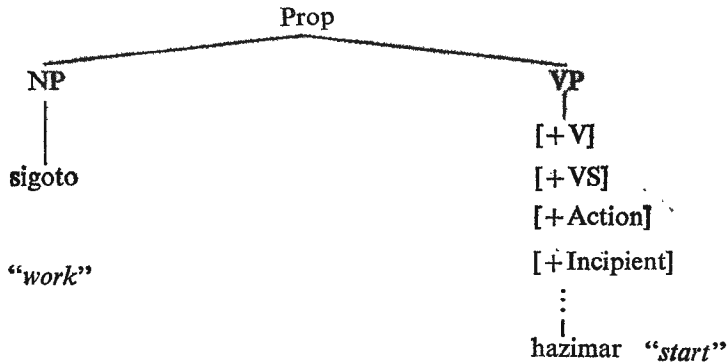
1-(6) states that when a matrix string does not contain D, its subject should be identical with the so-called subject of the embedded sentence.

<sup>14</sup> A grammar is more highly valued, if it contains very few special transformations, and if its transformations consist of elementary transformations stated in general terms. In this grammar the deletion transformations are handled in a very general way, so that we do not have special transformations such as Equivalent Subject Deletion or Equivalent Object Deletion proposed by Susumu Kuno in "Case-marking in Japanese," unpublished paper. The conditions proposed here are a kind of structural descriptions for deletion.

1-(7)



1-(8)



*Ar* under *V* in 1-(7) is a variant of the intransitive morpheme. Thus, transitive, intransitive, causative, passive, and other formatives appear independently as lexical items.<sup>17</sup>

As for the subject of matrices with *D*, the cases of those with [+Obj] are very easy to handle. But we need certain specification for those with [+Agt] and [+Loc]. We will come back to this discussion in Section 3, where an extensive discussion is given in relation to this problem.

Particles have not appeared in this grammar, because each of them is uniquely determined by the *P*-marker in which it appears, or the case feature or relational

<sup>15</sup> The structure of this Nuc is the same as 0-(2).

<sup>16</sup> A contextual feature of this kind is erased by a convention when that contextual constraint is satisfactorily met. So, [+ [Nuc \_\_\_\_]ᵥₚ] does not appear in 1-(8).

<sup>17</sup> In this grammar, most of the Japanese derived sentences, such as causative, passive, potential, etc., are treated in basically the same way as Nuc embedding. This paper will show much more generalization is achieved through this derivation than all previous treatments, including mine, *A Study of Japanese Syntax* (To appear, Mouton), which treat them by a similar type of embedding in the matrices with the formatives of causative, passive, and so on, but with independent changes effected on particles.

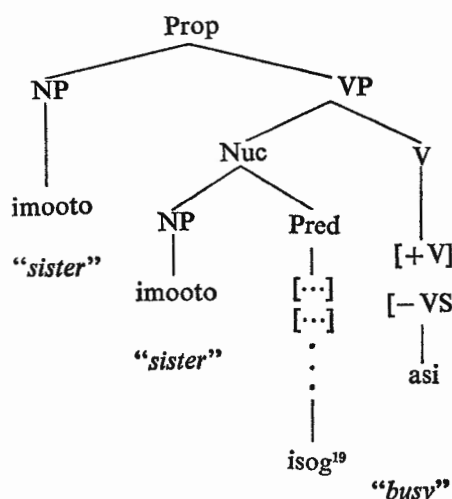
feature, (plus in some cases also by the inherent features of the NP carrying a case or relational feature). Therefore, a phonological feature matrix of each particle is inserted after NP by a local transformation.<sup>18</sup> This simplifies the grammar by eliminating transformations effecting changes of individual particles; for example, from *ga* to *o*, or *ga* to *ni*. Moreover, independent changes of particles obscure regular correspondences among them.

Further, the regular correspondence between the subject and the object explicated above is seen in sentences with embedded adjective and adjectival noun constructions. Among the following examples 1-(9) has an adjective and 1-(10) an adjectival noun; and 1-(11) and (12) indicate their underlying structures.

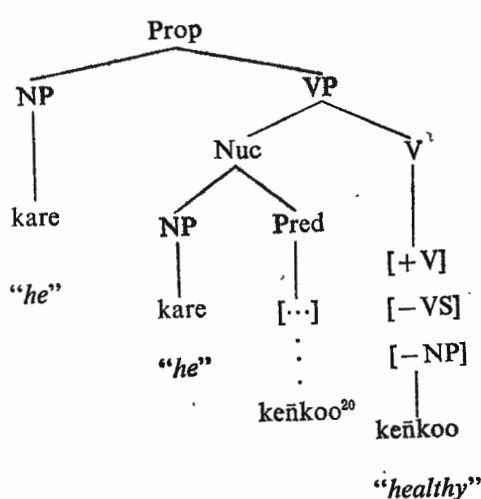
1-(9) *imooto wa isogasii* "My sister is busy."

1-(11) *kare wa keñkoo da* "He is healthy."

1-(11)



1-(12)



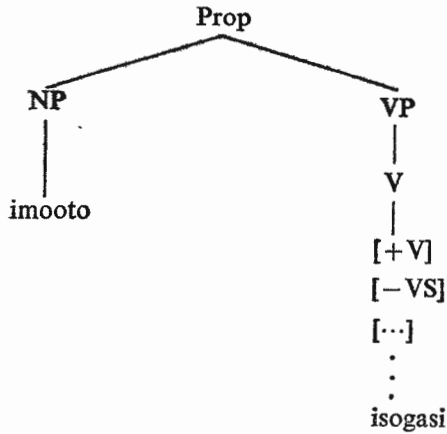
<sup>18</sup> This is one of the proposals I made in "Japanese Particles," an unpublished paper read at the International Seminar in Linguistic Theory, Tokyo, 1966. Lakoff treats English prepositions in a similar way as "Prep Spelling." George Lakoff, *On the Nature of Syntactic Irregularity*, MLAT Report No. NSF-16, 1965.

<sup>19</sup> When *isog* is copied to the lexical item with [+VS], it is realized as the verb *isog* "hurry." In 1-(11) it is realized as the adjective *isogasi* "busy," since it is copied to *asi*, an adjective formative.

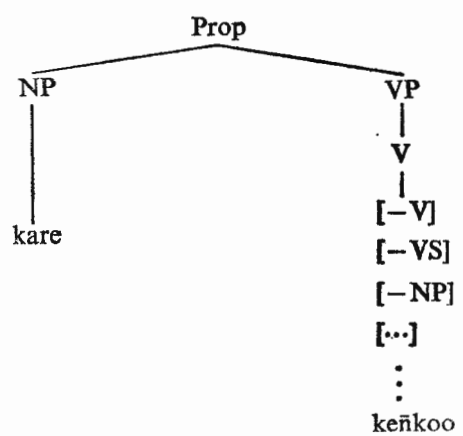
<sup>20</sup> The feature associated with the so-called adjectival nouns are copied to the phonologically zero adjectival noun formative which has the feature [+V, -VS, -NP]. The copula *da* and its variants, *ni*, *no*, and *na*, are uniquely determined by its contexts. That is, [±NP] in the contexts [\_\_\_ Tense] and [\_\_\_ [+V]] get *da* and *ni*, respectively, inserted after it. [+NP] in the context [\_\_\_ [+NP]] gets *no* after it, and [-NP] in the same context gets *na*. For example, *kare wa gakusya* ([+NP]) *da* "He is a scholar."—*gakusya no kare* ([+NP]), "he who is a scholar." *kare wa keñkoo* ([-NP]) *da* "He is healthy."—*keñkoo na kare* ([+NP]), "he who is healthy." The case of *ni* is exemplified by 1-(20) and (21). Thus, the occurrences of *da*, *ni*, *no*, and *na* are predictable, so that they are inserted by a later transformation.

Through the same process as that undergone by (7) and (8), these two structures result in 1-(13) and (14).

1-(13)

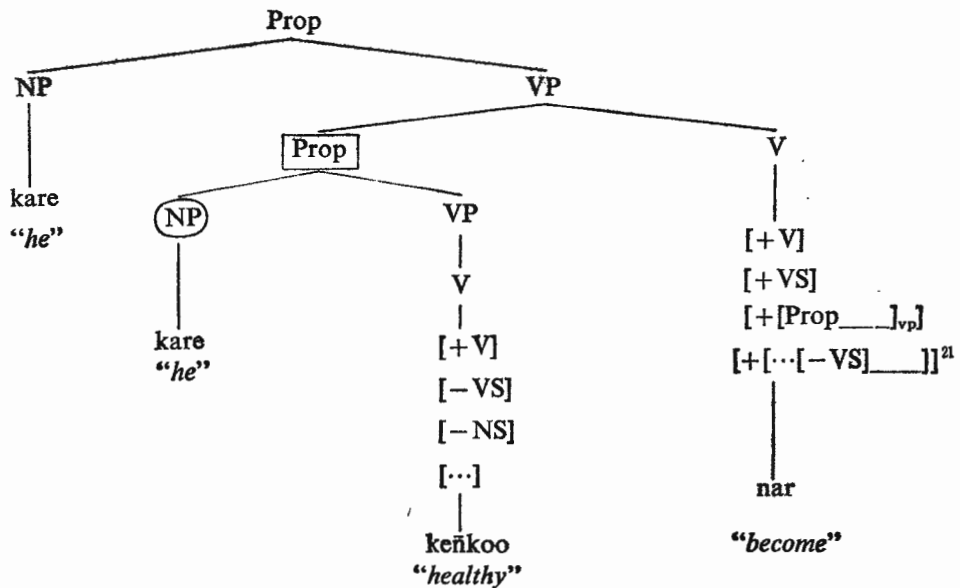


1-(14)



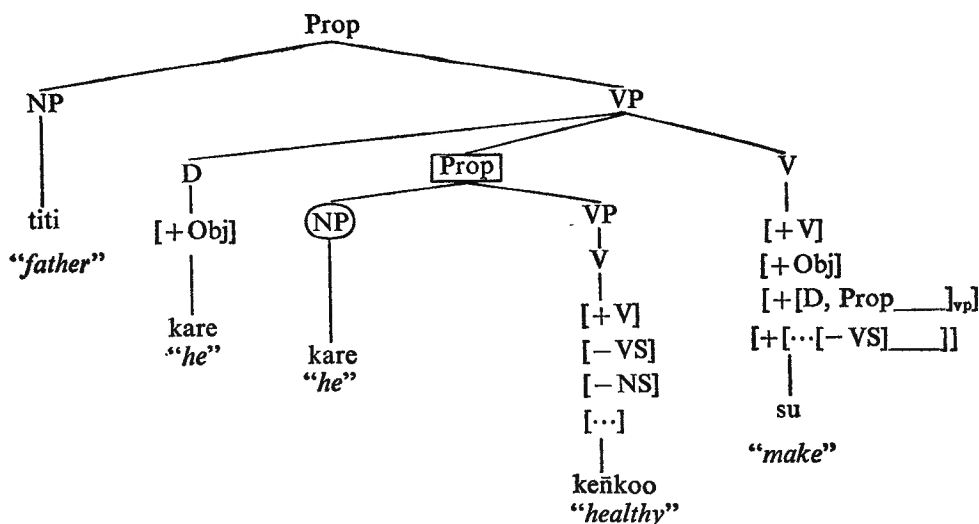
1-(15) is the case where 1-(14) is embedded in a matrix string with V which has the contextual feature [-[D ... \_\_\_\_]], and 1-(16) with V with [+ [D ... \_\_\_\_]].

1-(15)



<sup>21</sup> [+ [... [-VS] \_\_\_\_]] is a selectional constraint specifying that the embedded string contain the so-called adjective, noun, or adjectival noun dominated by V. This is a traditional approach, but some verbs are permissible in this context. This problem will be discussed in Section 4.

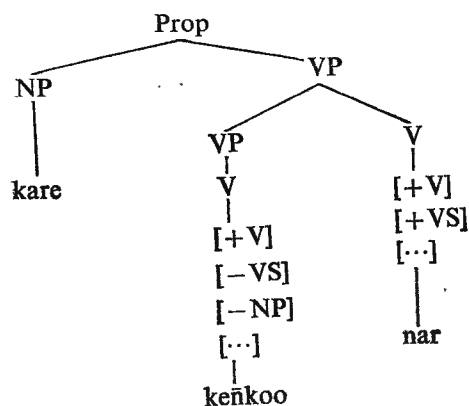
1-(16)



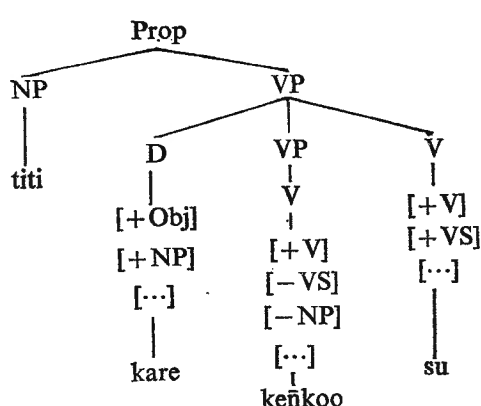
The circled NP's in both 1-(15) and 1-(16) are deleted, since both of them satisfy the identity condition; i.e., in 1-(15) as the result of Condition I (1-(6)), and in 1-(16) as the result of T3. Now the boxed Prop does not develop into all its obligatory nodes, i.e., one of the obligatory nodes, NP, is deleted. 1-(17) is a rule restating Tree-Pruning proposed by Ross.<sup>22</sup>

1-(17) T5: Any recursive symbol<sup>23</sup> and Nucleus are deleted when they cease to develop into all its obligatory nodes as the result of transformations.

1-(18)



1-(19)



<sup>22</sup> John R. Ross, "A Proposed Rule of Tree-Pruning," MLAT Report, NSF-17, Part IV, 1966.

<sup>23</sup> In my fuller grammar recursive symbols are S, Snuc, and Prop. Here we are concerned only with Prop. The status of Snuc (Sentence Nucleus) seems to me justifiable, but it requires further study.

The results of the application of 1-(17) are 1-(18) and 1-(19).

1-(18) and (19) underlie sentences 1-(20) and 1-(21) respectively.

1-(20) kare ga keñkoo ni nar ta "He became healthy."

1-(21) titi ga kare o keñkoo ni su ta "Father made him healthy."

Before we start discussing the problem of the subject of matrices with D containing [+Agt] and [+Loc], we have to investigate Nuclei with relational elements, such as Source, Goal, and so forth.

## 2. The relation between "Source" and "Goal" on one hand, and "Agent" and "Dative" on the other

The formal presentation of the structures of constructions with Nuc dominating some relational elements should be preceded by informal observation of some regular correspondences of particles in various types of sentences. In the following pairs of sample sentences there is a regular correspondence between (a) and (b), and the (b) sentences share a peculiarity that only in them the particle *ni* can be replaced by *kara* "from."<sup>24</sup>

- |  |  |
|--|--|
| 2-(1) (a) kare ga imooto <i>ni</i> zizyoo o hanas ta | "He spoke (about) the situation to (his) sister."    |
| (b) imooto ga kare <i>ni</i> (kara) zizyoo o kik ta  | "(His) sister heard (about) the situation from him." |
| 2-(2) (a) kare ga imooto <i>ni</i> hoñ o yar ta      | "He gave a book to (his) sister."                    |
| (b) imooto ga kare <i>ni</i> (kara) hoñ o moraw ta   | "(His) sister received a book from him."             |
| 2-(3) (a) kare ga imooto <i>ni</i> hoñ o kas ta      | "He lent a book to (his) sister."                    |
| (b) imooto ga kare <i>ni</i> (kara) hoñ o kari ta    | "(His) sister borrowed a book from him."             |

It is obvious that *ni* in (a) and *ni* in (b) indicate two entirely different relations. Generative grammars have so far handled this problem by setting up two different *ni*'s with such labels as *ni*<sub>1</sub> and *ni*<sub>2</sub>.<sup>25</sup> Traditional Japanese grammars treat this fact as a variety of meanings borne by this particle. Neither approach is satisfactory, since the former does not account for our intuitive knowledge of the correspondence between

<sup>24</sup> Note that both *ni* and *kara* in the (b) sentences is translated into "from." The English words which do not appear in the original sentences are enclosed with parentheses. Pronouns are supplied in English translation where no such specification is given in original sentences. For example, *imooto* in 2-(1) is ambiguous as to whether it is his, or my or someone else's sister. "His" in the translation is one of the possible interpretations.

<sup>25</sup> Actually several different *ni*'s have been proposed by these grammars. For example, Inoue, *A Study of Japanese Syntax*, and Matsuo Soga, "Some Syntactic Rules of Modern Colloquial Japanese," Ph. D. thesis, Indiana University (1966).

(a) and (b) sentences, and the latter indicates only the existence of meaning difference, but not the difference in the structures which causes the difference in meaning.

Further, we have to note that there is similarity between *ni* in these (b) sentences and *ni* in causative sentences. In 2-(4), (5), (6), the (b) sentences are expanded constructions with *moraw*,<sup>26</sup> and they are similar in meaning to 2-(1), (2), (3)-(b).

2-(4), (5), (6)-(a) are causative sentences.

- |           |  |  |
|-----------|--|--|
| 2-(4) (a) | imooto ga kare <i>ni</i> (kara) zizyoo o hanas sase ta     | "(His) sister made him speak about the situation."         |
| (b)       | imooto ga kare <i>ni</i> (kara) zizyoo o hanas te moraw ta | "(His) sister had him speak about the situation."          |
| 2-(5) (a) | imooto ga kare <i>ni</i> (kara) hoñ o okur sase ta         | "(His) sister made him send a book."                       |
| (b)       | imooto ga kare <i>ni</i> (kara) hoñ o okur te moraw ta     | "(His) sister made him send her a book."                   |
| 2-(6) (a) | imooto ga kare <i>ni</i> (kara) hoñ o kas sase ta          | "(His) sister made him lend (her or someone else) a book." |
| (b)       | imooto ga kare <i>ni</i> (kara) hoñ o kas te moraw ta      | "(His) sister had him lend (her) a book."                  |

The similarity of the *ni*'s in (a) and (b) in each pair is also indicated by substitutability of *kara* in each case. Further, we should take note that there is some difference in meaning between the sentences with *ni* and *kara*, the latter with the implied meaning "source." Our next task is to see if *ni* in every causative sentence can be substituted by *kara*. In 2-(7) and (8), this is not the case.

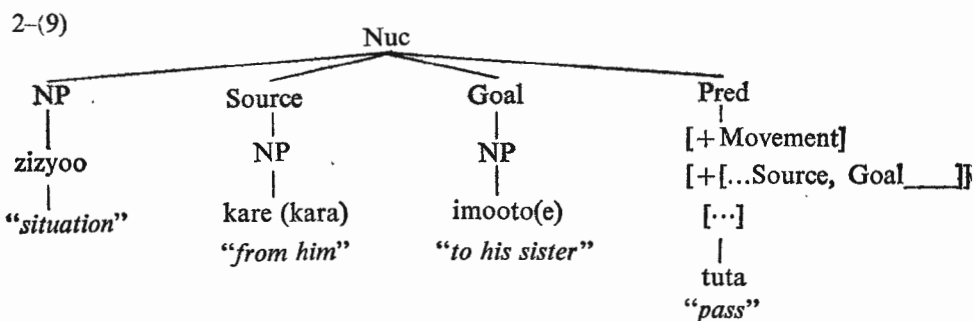
- |           |  |                                       |
|-----------|--|---------------------------------------|
| 2-(7) (a) | imooto ga kare <i>ni</i> beñtoo o tabe sase ta         | "(His) sister made him eat lunch."    |
|           | * (b) imooto ga kare <i>kara</i> beñtoo o tabe sase ta |                                       |
| 2-(8) (a) | imooto ga kare <i>ni</i> tukue o tatak sase ta         | "(His) sister made him hit the desk." |
|           | * (b) imooto ga kare <i>kara</i> tukue o tatak sase ta |                                       |

If the (b) sentences are interpreted as "Sister made (some people with him as the first actor) eat or hit . . .," they appear to be well-formed. But in such a case the notion "agent" seems to be implied, while the notion "source" is understood as its primary meaning. This fact leads us to an assumption that the interchangeability of *ni* and *kara* in (b) of 2-(1), (2), (3), and (a) and (b) of 2-(4), (5), (6), where the notion "agent" is predominant, is due to inherent features of certain verbs. In fact the verbs in these

<sup>26</sup> *Moraw* alone means "to receive" and in an expanded VP, *V + te moraw*, it means "to have (someone do something,) or receive some kind of action." There is a significant semantic difference between the (a) and (b) sentences of 2-(4), (5), and (6); that is, in (a) sentences, the subject *imooto* is not necessarily the goal of the action, while in (b) sentences the subject *imooto* is the one to whom he did the action of speaking, sending, or lending. This fact can be handled adequately within the framework of this grammar.

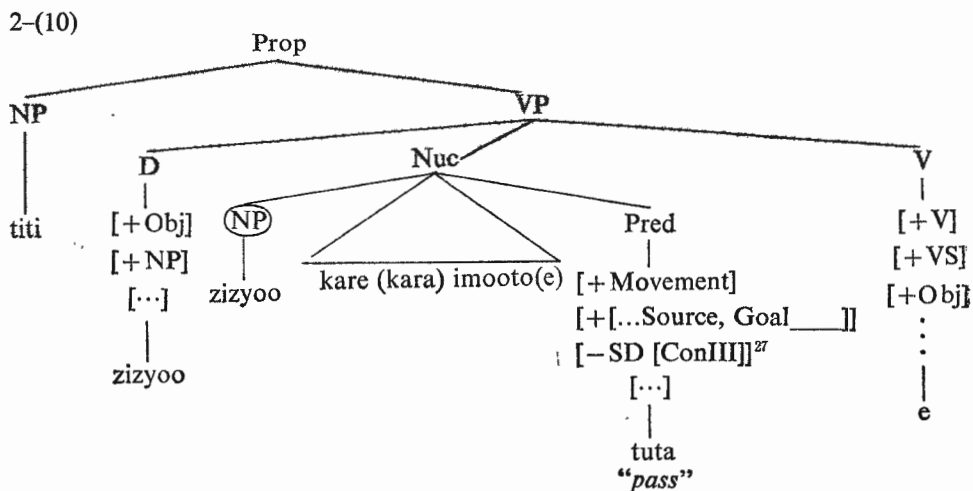
sentences are *hanas* "speak, talk," *kas* "lend," *kari* "borrow," *okur* "send," all with an implied notion of the relations, "source" and "goal." But this is not the case with the verbs in 2-(7), and (8), i.e., *tabe* "eat" and *tatak* "hit."

In our grammar this fact gets such formal explication as the following: First the Nuc underlying the sentences with verbs which contain the notion of "source" and "goal" looks something like the following.



[+ [...Source, Goal \_\_\_\_]] is the strict subcategorization feature associated with lexical items, such as *ugok* "move," *ik* "go," *tuta* "pass," specifying that such items occur in this frame.

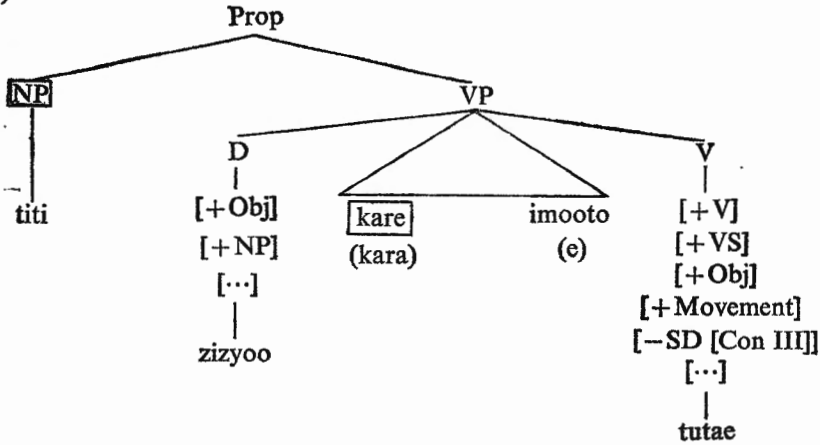
The procedure of embedding 2-(9) in a matrix with [+ [D... \_\_\_\_]] and one with [- [D... \_\_\_\_]] is exactly the same as that applied to 1-(1) and (4), and 1-(7) and (8). 2-(10) and (11) illustrate the former, and 2-(14) and (15) the latter. 2-(13) and (16) are the resulting sentences respectively, and the circled NP's are deleted in both cases.



<sup>27</sup> This feature is discussed in the following few paragraphs.

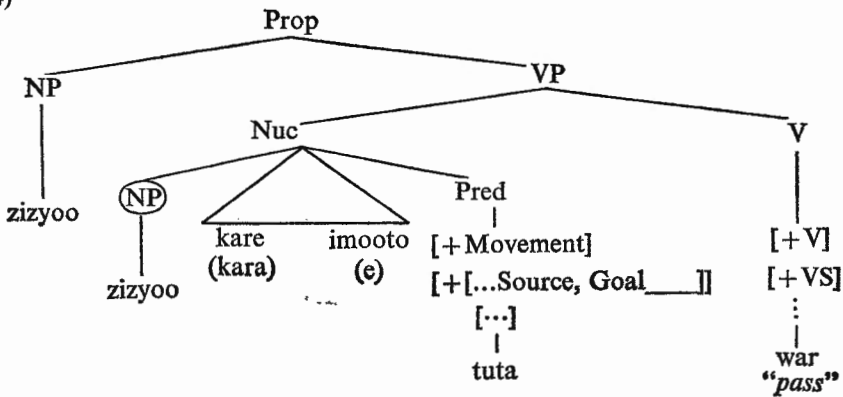


2-(11)

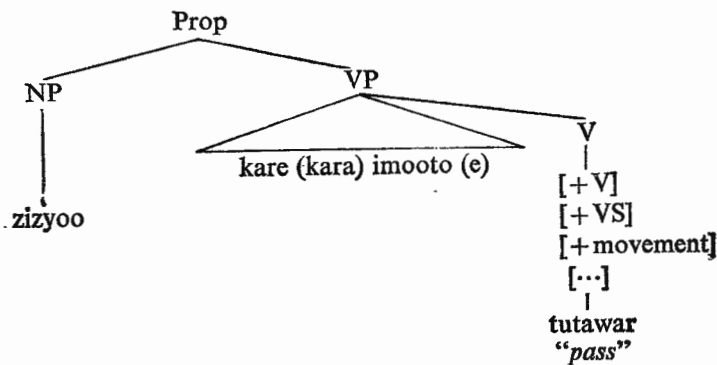


2-(13) titi ga zizyoo o kare kara imooto e tutae ta  
 "Father passed (the information about) the situation from him on to (his) sister."

2-(14)



2-(15)



2-(16) zizyoo ga kare kara imooto e tutawar ta

"The information about the situation went from him to (his) sister."

In case the two boxed NP's in 2-(11) are identical, reflexivization of the second NP or deletion of either one of the two NP's takes place, deriving 2-(17), (18), or (19). The formal statement of this derivation is presented below.

2-(17) titi ga zizyoo o kare zisiñ kara imooto e tutae ta<sup>28</sup>

"Father passed (the information about) the situation to (his) sister from himself."

2-(18) titi ga zizyoo o imooto e tutae ta

"Father passed (the information about) the situation to (his) sister."

2-(19) zizyoo o titi kara imooto e tutae ta

"(Father) passed (the information about) the situation to (his) sister from Father."

The assumed underlying structure for the pairs in 2-(1), (2), and (3) seems to be supported, since the above seems to be a natural way of explaining the correspondence between them.

Some transitive verbs, such as *tutae* "pass" in 2-(11), *hanas* "speak" in 2-(1) (a), *yar* "give" in 2-(2) (a), *kas* "lend" in 2-(3) (a), occur sometimes with both Source and Goal, and at other times only with Goal. And the latter case is the result of the deletion of Source as exemplified by 2-(18). This means in such sentences the NP under Source can be identified with the NP which is the so-called subject of a transitive construction, but Goal in this environment should never be identified with it. This fact is taken care of by the following conditions.

2-(20) Condition II

$$\ln \frac{[ [+NP, \alpha] ]}{1} \left[ \frac{+D}{+NP} \right] \frac{\gamma}{2} \frac{[X [+NP, \beta] ]_{Source} Y_{Nuc, Prop} Z]_{Prop}}{3 \quad 4 \quad 5}$$

1 may be identical with 4.

Where: 3 contains [+NP] in its left most feature set, and 4 contains [+Animate].

2-(21) Condition III

$$\ln \frac{[ [+NP, \alpha] ]}{1} \left[ \frac{+D}{+NP} \right] \frac{\gamma}{2} \frac{[X [+NP, \beta] ]_{Goal} Y_{Nuc, Prop} Z]_{Prop}}{3 \quad 4 \quad 5}$$

1 may be identical with 4.

Where: 3 contains [+NP] in its left most feature set, 4 contains [+Animate], and 5 contains [+NP]<sub>Source</sub>

<sup>28</sup> *Karezisiñ* is a reflexivized form of *titi*.

These conditions apply to matrices with D, and state that the subject of a matrix of this type can be identical with the NP dominated by either Source or Goal. Since they are effective in the case of the causative and some other matrices, Prop is also admitted as the embedded string. (See 3-(7)) Condition III applies only when Source and Goal co-occur, and this is the reason for the last stipulation on Condition III.

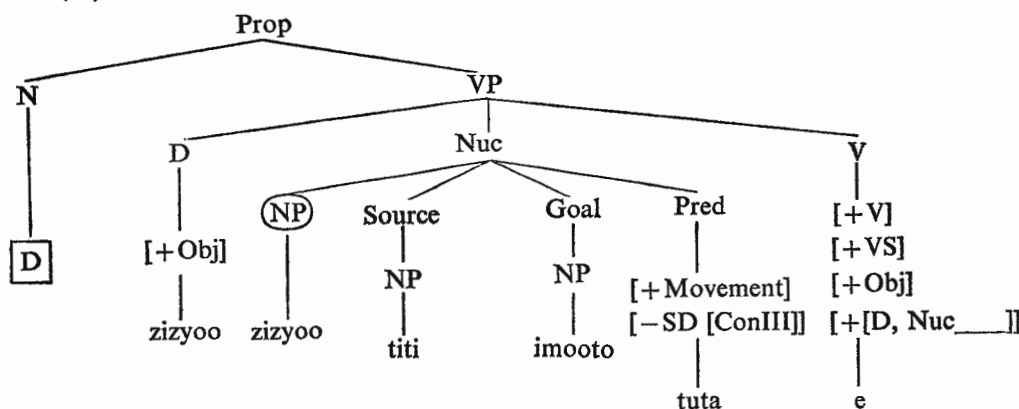
In the case of *tutae*, *hanas*, *yar*, *kas*, it is optional whether the matrices with them satisfy Condition II or not. Therefore, this SD feature<sup>29</sup> is not entered in the feature sets associated to these lexical items, but the SD feature [-SD [Con III]] is included in them, since they should not satisfy condition III. (See 2-(10) and (11).) Other verbs of this group are: *osie* "teach," *mise* "show," *simes* "indicate" *syookaisu* "introduce."

The deletion of the NP under Source in 2-(18) is not an exception to the deletion on the basis of identity condition, by which the NP in embedded sentence is deleted. The deletion of the matrix subject of 2-(19) is the consequence of following transformation which causes a dummy symbol to replace the subject NP.

$$2-(22)^{30} \quad T6 \text{ (Optional)} \quad \frac{D \left[ \frac{X \left[ \frac{Y \left[ \frac{Z}{4} \right]_{Nuc} \right]}{3} \right]_{Source}}{\frac{1}{2}} \right]}{1} \rightarrow$$

D-2-3-4-5                      Condition: 1=3

2-(23)



The boxed D in 2-(23) gets deleted, since any dummy symbol remaining in the surface string is erased by a convention.<sup>31</sup>

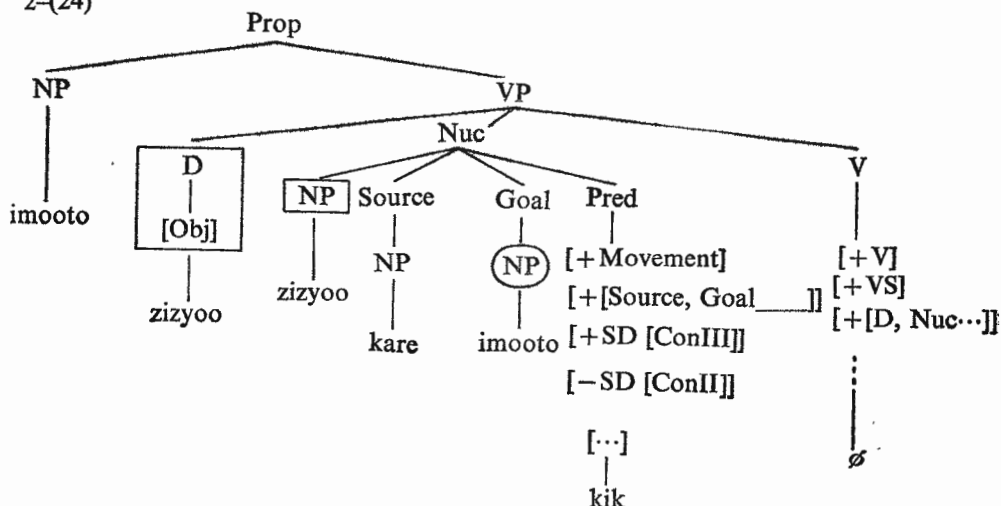
<sup>29</sup> An SD feature specifies whether the given string should meet the structural description of a transformation or not, and a rule feature specifies whether a certain transformation is applicable to the given string or not. (See Lakoff.)

<sup>30</sup> This transformation accounts for the interchangeability of *ni* and *kara* in causative sentences. (See Section 3.)

<sup>31</sup> Chomsky, in the lecture at the International Seminar in Linguistic Theory, 1966.

Some verbs like *kik* "hear," *moraw* "receive," and *kari* "borrow," which appear in the (b) sentences of 2-(1), (2), and (3), should satisfy Condition III, but not Condition II. So they carry the SD feature [+SD [Con III]] and [-SD [Con II]].

2-(24)



Semantic difference between sentences with *sase* "cause, make" and *moraw* "have (something done)" mentioned in Footnote 26 of this section is due to the fact that *moraw* carries the feature [+SD [Con III]]. (See the derivation of the *te-moraw* form in Section 3.)

In 2-(24) the second of the boxed pair and also the second of the circled NP's are deleted, resulting in 2-(25).

2-(25) imooto ga zizyoo o kare kara kik ta

"(His) sister heard (about) the situation from him."

When NP under Goal is identified with the subject of the sentence with D, there is no choice of reflexivization. So this is to be stipulated by a rule.

It is a natural consequence of a general convention, which stipulates the subject of the construction with [+Obj] be mostly animate, that the above identification is possible only when NP's under Source and Goal have animate nouns as their heads.

In 2-(17) and (18) *e* appears instead of *ni*. Actually both forms occur interchangeably, but the latter is taken to be more natural when it follows an animate noun. In this grammar, *e* is the basic form spelled in after NP dominated by Goal. But when NP is an animate noun, *ni* is obligatorily taken,<sup>32</sup> otherwise *ni* is optionally chosen. When nominal marker *no* appears after this NP, *e* or an expanded form *ni taisite*, both meaning "to," is spelled in.

<sup>32</sup> For example, *okaasan e okur ru* is felt strange, but *e* and *ni* occur interchangeably in *amerika e okur ru* and *amerika ni okur ru*.

The reason for taking Goal as the source of *ni*, as well as *e*, is that *e* appears in nominal constructions even after an animate noun. 2-(26) is a group of sentences with *ni*, and 2-(27) their nominal counterparts.

- |            |  |  |
|------------|--|--|
| 2-(26) (a) | imooto ga kare <i>ni</i> kane o okur ta        | "(His) sister sent money to him."                        |
| (b)        | imooto ga kare <i>ni</i> zaisān o yuzur ta     | "(His) sister gave up (her) property to him."            |
| (c)        | imooto ga kare <i>ni</i> hookoku-su ta         | "(His) sister made a report to him."                     |
| (d)        | imooto ga kare <i>ni</i> isoñ-su ta            | "(His) sister depended on him."                          |
| 2-(27) (a) | imooto no ani <i>e</i> no <sup>33</sup> sookiñ | "the sending of money to him by (his) sister"            |
| (b)        | imooto no kare <i>e</i> no zaisān no zyooto    | "the giving up of (her) property to him by (his) sister" |
| (c)        | imooto no kare <i>e</i> no hookoku             | "(his) sister's report to him"                           |
| (d)        | imooto no kare <i>e</i> no isoñ                | "(his) sister's dependency on him"                       |

It is not necessarily the case that Source and Goal co-occur in the nucleus. The verbs with the feature [+Incipient] usually occur with only Source; for example:

- |            |   |  |
|------------|---|--|
| 2-(28) (a) | hanasi ga kare kara hazimar ta            | "The conversation started with him."   |
| (b)        | kare ga (kara) hanasi o hazime ta         | "He started the conversation."         |
| (c)        | kare ga karezisiñ kara hanasi o hazime ta | "He himself started the conversation." |

The verbs usually with Goal are exemplified by sentences in 2-(29), (30). And 2-(31) (a) and (b) are nominalized forms which are related to (a) sentences of (29), (30).

- |            |  |   |
|------------|--|---|
| 2-(29) (a) | imooto ga kañkyoo ni nare ta             | "(My) sister got used to the environment."          |
| (b)        | haha ga imooto o kañkyoo ni naras ta     | "Mother accustomed (my) sister to the environment." |
| 2-(30) (a) | watasi ga kono sigoto ni aw ta           | "I was fitted for this job."                        |
| (b)        | kare ga watasi o kono sigoto ni awase ta | "He made me fit for this job."                      |
| 2-(31) (a) | imooto no kañkyoo e no zyūñoo            | "the adaptation of (my) sister to the environment"  |
| (b)        | watasi no kono sigoto e no tekigoo       | "my fitness for this job"                           |

It should be noted that in these cases the NP under Goal is not to be identified with the subject of the matrix Prop, since 2-(29) (b) *haha ga imooto o kañkyoo ni naras ta* is

<sup>33</sup> *No* appears after each NP in such a nominal phrase. *Wa, ga, o* are not spelled in after NP when *no* appears.

a well formed sentence, while 2-(32) *kañkyoo ga imooto o naras ta* "The environment accustomed (my) sister," is not. (See the stipulation on Condition III.)

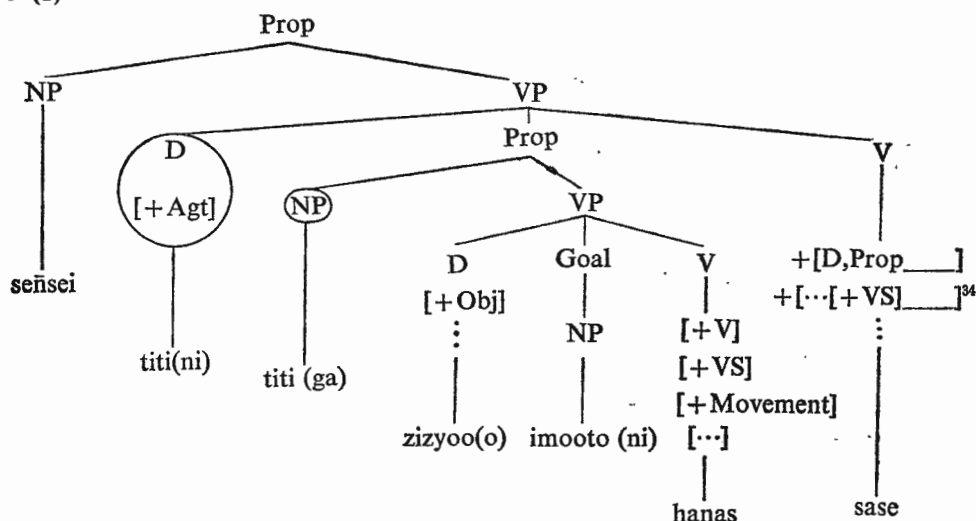
The above discussion indicates that the so-called "dative" case can be regarded as a type of Goal, in which the head noun is animate. The particle *ni* is preferred in such cases. When the head noun is inanimate, *ni* or *e* appears interchangeably.

In relation to the sentences with Source and Goal there is still one point left undiscussed, i.e., the correspondence between *ni* and *kara* in (b) sentences of 2-(1), (2), and (3). But we have to defer the discussion to the end of Section 3, since it involves the status of Agent.

### 3. The status of Agent

Again it is necessary to make an informal investigation into related problems before making an explicit statement of the status of Agent. We have noted before that there

3-(1)

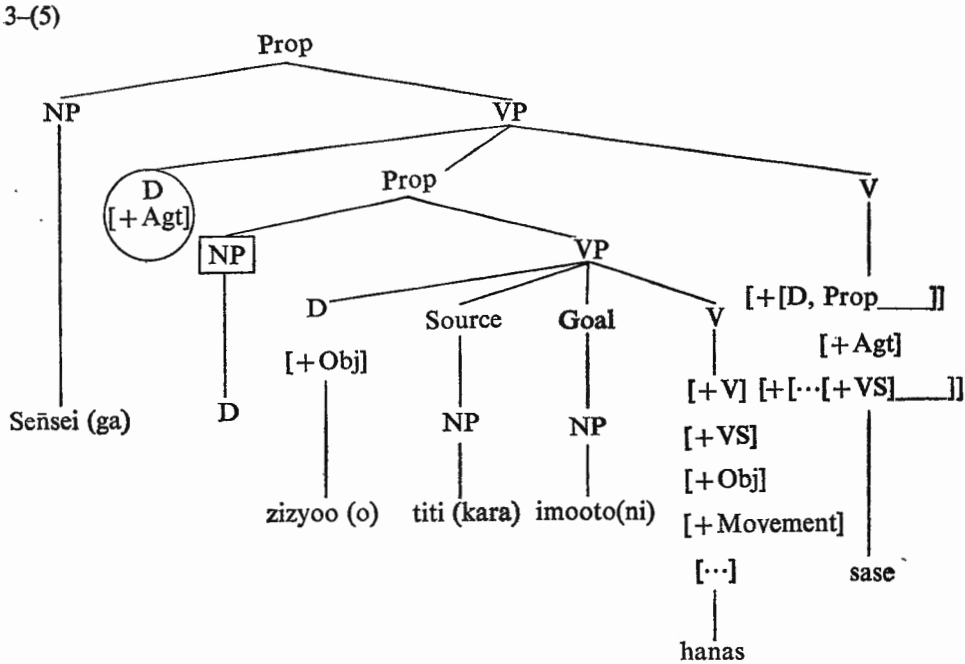


is similarity in meaning between *ni* in (b) sentences of 2-(1) (2) (3), and (a) (b) sentences of 2-(4), (5), and (6). In 2-(1), (2), and (3), the so-called subjects of (a) sentences correspond to the NP's with *ni* in (b) sentences, and in 2-(4), (5), and (6), the NP's with *ni* correspond to the subjects of the embedded sentences. To show how this correspondence is accounted for, we have to start our discussion with the causative construction. 3-(1) is an exemplification of the causative construction, with 2-(18) as its embedded sentence.

3-(1) is the underlying structure of 3-(2). And after T1 applies to 3-(1), T3 copies the features under the circled NP onto D.

<sup>34</sup>  $[+[\dots [+VS] \_\_\_]]$  is a selectional restriction on the V of the embedded Prop.

- 3-(2) señsei ga titi ni zizyoo o imooto ni hanas sase ta  
 "The teacher had (or made) Father talk (about) the situation to (his) sister."  
 3-(3) is the result of embedding 2-(23) in the same matrix.
- 3-(3) señsei ga zizyoo o titi kara imooto ni hanas sase ta  
 "The teacher had the situation explained to (his) sister from Father."  
 Because of T4, the underlying structure of 3-(3) is as follows:



Since the boxed NP does not satisfy the structural description of T3, the feature set under this NP is not copied onto the circled D. Consequently, both dummies are deleted later by a convention stated in Footnote 31 of Section 2.

The possibility of matching the subject of a matrix containing D with the animate noun under Source of the embedded sentence, is open to the causative sentences. 3-(7) is a causative sentence with 3-(6) embedded in it. (cf. 3-(5), in which matching does not take place.)

- 3-(6) imooto ga zizyoo o titi kara kik ta  
 "(His) sister heard (about) the situation from Father."
- 3-(7) titi ga imooto ni zizyoo o kik sase ta  
 "Father let sister hear (about) the situation."

In case 3-(8) is embedded in a causative matrix and its subject is identical with the NP dominated by Source, the resulting sentence (3-(9)) is interpreted in two ways.

- 3-(8) zizyoo o titi kara imooto ni hanas ta  
 (the same as 2-(23))

3-(9) titi ga zizyoo o imooto ni hanas sase ta

(a) "Father made (my) sister talk about the situation (to someone)."

(b) "Father made (someone) talk about the situation to my sister."

In the reading of 3-(9) (a) the relation of *titi* and *imooto* is entirely reversed from that expressed by 3-(8), in which the father is the source of action and the sister its goal. 3-(9) (b) is felt to have lost its agent phrase, so that the relation expressed by 3-(9) (b) is also different from 3-(8). This means that in causative sentences the agent phrase is indispensable. Therefore, matching, as is stated by condition II, should not take place when D remains in the P-marker without getting NP features copied. This is why the second term of Condition II specifies that it should contain  $\begin{bmatrix} +D \\ +NP \\ \gamma \end{bmatrix}$ .

Condition III is applicable to the matrix with the causative formative. In the following example 3-(10) is the embedded sentence, 3-(11) with the matrix subject which is not identical with either the NP under Source or that under Goal, and 3-(12) with the matrix subject identical to the NP under Goal. Notice that 3-(12) also has two readings.

3-(10) B ga hookoku o A ni su ta "B made a report to A."

3-(11) C ga B ni hookoku o A ni su sase ta  
"C had B make a report to A."

3-(12) A ga B ni hookoku o su sase ta

(a) "A had B make a report to A."

(b) "A had B make a report to (someone else)."

In the case of 3-(12) (a), A caused B's action, and at the same time A was the recipient of the action. In (b) Goal is felt to be deleted.

The difference between the so-called *ni*-causative and *o*-causative, as exemplified by 3-(13) and 3-(14) respectively, is accounted for by setting up two kinds of *sase*, one which has [+Agt], and the other with [+Obj].

3-(13) kare ga kodomo ni aruk sase ta "He let (or made) the child walk."

3-(14) kare ga kodomo o aruk sase ta "He had (or made) the child walk."

There is one specification necessary; that is, the second *sase* should not take as its embedded sentence Prop containing V with [+Obj], which is indicated by one more feature associated with this lexical item; i.e., [-[... [+V, +Obj]\_\_\_\_\_]].

Passive sentences are also derived from the matrix with [+Agt]. The subject-object correspondence stated in relation to nucleus embedding at the end of section I is also seen in passive derivation; i.e., the subject of a passive sentence can be identified with the feature set [+D, +Obj, ...] of the embedded sentence, as in 3-(15), (16).

3-(15) titi ga sono inu o tukamae ta

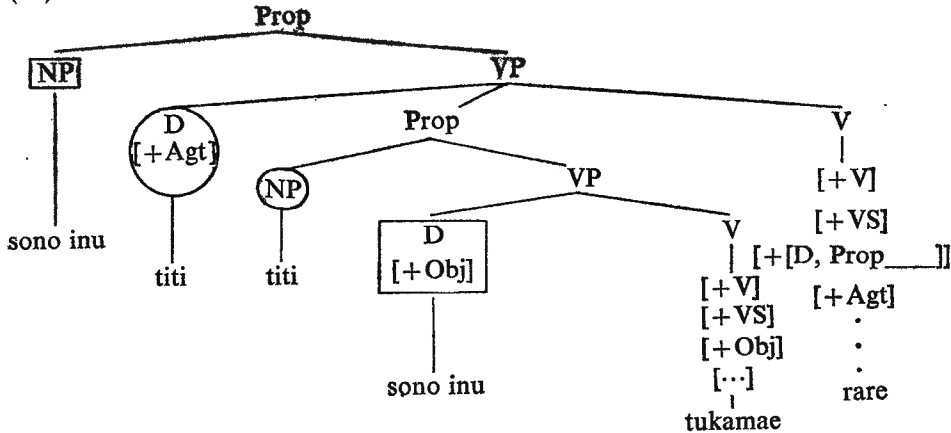
"Father got hold of that dog."

3-(16) sono inu ga titi ni tukamae rare ta

"The dog was caught by Father."



3-(17)



This correspondence between the subject of a matrix with D and the feature set [+D, +Obj, ...] of the embedded sentence is a phenomenon regularly observed in the potential and a certain adjectival constructions. 3-(18) and (19) are the exemplification of such cases.

3-(18) (a) ani ga doitugo o yom ru (embedded sentence)

"(My) brother reads German."

(b) doitugo ga ani ni yom re ru (derived sentence)

"(My) brother can read German." (Potential)

3-(19) (a) ani ga kono hoñ o yom ru (embedded sentence)

"(My) brother reads this book."

(b) kono hoñ ga ani ni yomi yoi (derived sentence)

"This book is easy for (my) brother to read."

(Adjectival construction which expresses "ease" or "difficulty.")

The correspondence between the double underlined *ga* and *ni* in both sentences is the result of copying effected by T3. The so-called subject-object correspondence as indicated by single underlines is exactly the same as in the case of passive sentences.

The correspondence of this type is not limited to the case of embedded sentences containing [+D, +Obj, ...], but agent NP's can also be identical with the subjects of matrices with D, as in 3-(20), and (21).

3-(20) titi ga otooto ni hoñ o yom sase ta

"(My) father made (my) brother read the book."

3-(21) otooto ga titi ni hoñ o yom sase rare ta

"(My) brother was made to read the book by (my) father."

*Otooto ni* in 3-(20) is an agent phrase whose NP is identified with the subject NP of 3-(21).

These facts are accounted for by the following condition.

Condition IV

$$3-(22) \quad \text{In } \underbrace{\text{NP}}_1 \left[ \underbrace{\begin{matrix} +D \\ +NP \\ \alpha \end{matrix}}_2 \right] \underbrace{\text{NP}}_3 \left[ +D, \underbrace{\begin{matrix} \{+Obj\} \\ \{+Agt\} \end{matrix}}_4, \beta \right] \underbrace{X}_{5} \underbrace{Z}_{6}$$

1 may be identical with 4.

Since Condition IV must be met in the case of potential and "ease" or "difficulty" constructions as is exemplified by 3-(18) and (19), the potential and "ease" or "difficulty" formatives carry the feature [+SD [Con IV]]. This is optional in the case of causative and passive sentences.

In case condition IV applies to the causative matrix, reflexivization, rather than deletion, of the NP with [+D, {+Obj}, β] takes place.

3-(23) *teki ga kare o toriko ni su ta*  
 "His enemy took him prisoner."<sup>35</sup>

3-(24) *kare ga teki ni karezisiñ o toriko ni su sase ta*  
 "He made his enemy take himself prisoner."

3-(25) *sireikañ ga teki ni kare o toriko ni su sase ta*  
 "The commander made his enemy take him prisoner."

In the above, 3-(24) is the result of the application of Condition IV, and 3-(25) is the case where this condition is not met.

Though we cannot get into the discussion of reflexivization within the scope of this paper, it should be noted that in the so-called transitive sentences, the identity condition is for reflexivization, rather than for deletion.

At this point, we have to clarify the notion of subject-object correspondence. The NP dominated by Nuc can become the subject of the matrix without D, or the object of the matrix with D. In this case there is a clear cut correspondence between the subject of the so-called intransitive sentence and the object of the so-called transitive sentence. In the expanded construction, however, the correspondence exists between matrices without D, which underlies one type of the so-called intransitive sentences, and matrices with D, which underlies transitive sentences in the traditional sense, intransitive sentences such as passive and potential sentences, and sentences with certain adjectives. Only differences which should be noted among the matrices with D are the following facts.

3-(26) (a) In the case of matrices with D containing [+Loc], Condition IV obligatorily applies.<sup>36</sup>

3-(26) (b) In the case of matrices with D containing either [+Agt] or [+Obj] (that is, in causative and passive sentences), Conditions II, III, and IV are optional.

<sup>35</sup> 3-(23) is derived by embedding *Kare ga toriko da* "He is a prisoner." into a matrix containing D with [+Obj].

<sup>36</sup> Potential and certain adjective matrices have [+D, +Loc].

3-(26) (c) If matching takes place in causative sentences, then reflexivization rather than deletion of the embedded D follows.

3-(26) (d) Though the above three conditions are also optional in the case of passive sentences, they should satisfy one of them for each derivation. This is the only difference between the passive and the causative sentences, since in the latter, it is all right if none of the conditions are met and an entirely new NP's are chosen as their subjects.

The above facts are stated in the grammar in the following way:

3-(26) (a') The potential formatives—*rare* or *re*—and the "ease" and "difficulty" formatives such as *yo*, *yasu* "easy" and *niku*, *gata* "difficult" have the SD features [+SD [Con IV]], [-SD [Con II, III]].<sup>37</sup>

3-(26) (b') (c') The causative formative carries a rule feature [+Reflexivization].

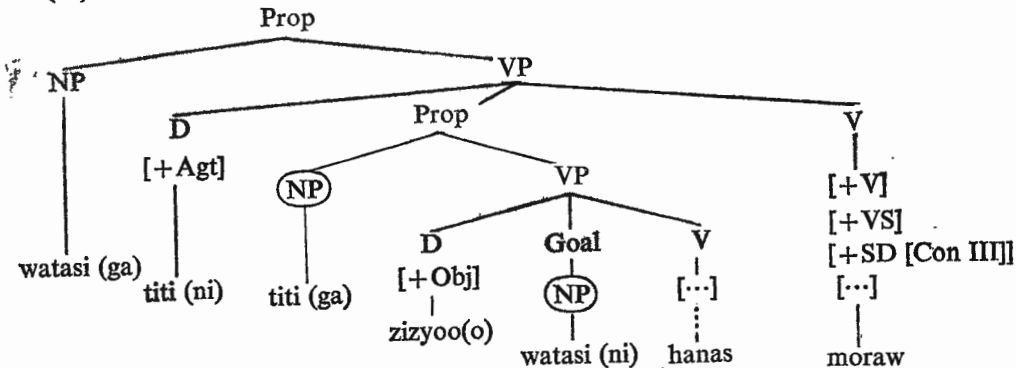
3-(26) (d') {[+SD [Con II]], [+SD [Con III]], [+SD [Con IV]]} is the feature set attached to the passive formative *rare*. The braces mean that only one of the elements enclosed by them should be chosen.<sup>38</sup> 3-(28) and (29) are sample passive sentences with 3-(27) embedded. 3-(28) has the object of the embedded sentence for its subject, and 3-(29) Goal for its subject.

3-(27) *kare ga imooto o (object) tomodati ni (Goal) syookai-su ta*  
 "He introduced (his) sister to (his) friend."

3-(28) *imooto ga kare ni tomodati ni syookai su rare ta*  
 "His sister was introduced to (his) friend by him."

3-(29) *tomodati ga kare ni imooto o syookai-su rare ta*  
 "(His) friend was introduced to (his) sister by him."

3-(30)



The construction with *te-moraw* is the result of obligatory identification of Goal with

<sup>37</sup> Here we limit our discussion to these formatives. But there is an adjectivalizing formative which contains these SD features as well as [+D, +Loc]. There is another potential construction which does not contain [+D, +Loc]. This will be taken up in Section 4.

<sup>38</sup> This is an interpretation of the use of braces.

its subject, as is exemplified by 3-(30).<sup>39</sup>

The two circled NP's are deleted, resulting in 3-(31). Since the occurrence of *te* is highly predictable, it is introduced by a later transformation.

3-(31) *watasi ga titi ni zizyoo o hanas te moraw ta*

"I had Father talk about the situation to me."

Sentences like 3-(32) do occur, and we also note similar passive sentences such as 3-(33).

3-(32) *watasi ga titi ni gakkoo e kihu su te moraw ta*

"I had my father make donation to (my) school."

3-(33) *watasi wa kare ni saki o kos rare ta*<sup>40</sup>

"He got ahead of me."

In each case the embedded string has a possessive phrase, which is indicated by underlines in 3-(34) and 3-(35).

3-(34) *titi ga watasi no gakkoo ni kihu su ta*

"Father made a donation to (my) school."

3-(35) *kare ga watasi no saki o kos ta*

"He got ahead of me."

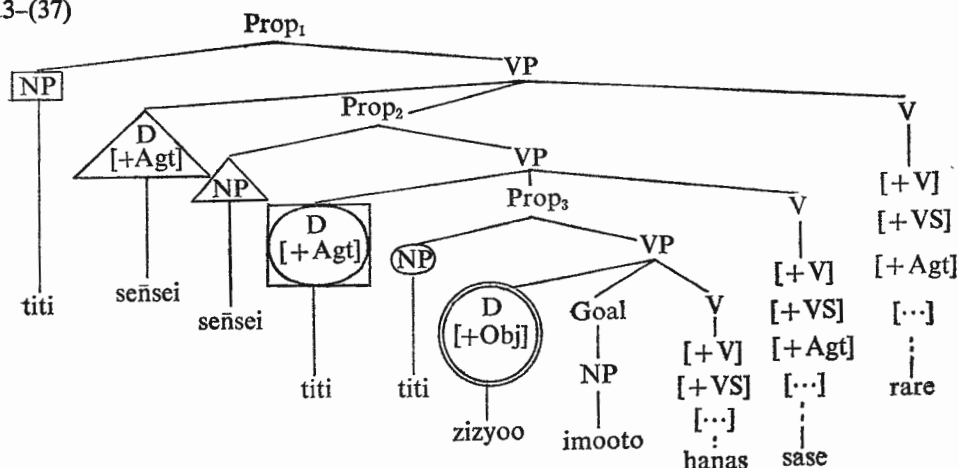
The discussion of the possessive phrase would take us too afield, but it is worth mentioning in this connection.

Next, 3-(36) is a passive sentence with 3-(2) (with [+Agt]) embedded in it. 3-(37) is its underlying structure.

3-(36) *titi ga seŋsei ni zizyoo o imooto ni hanas sase rare ta*

"(My) father was made to talk about the situation to (my) sister by the teacher."

3-(37)



<sup>39</sup> This is the reason for the semantic difference between *sase* and *te-moraw* construction discussed on p. 19.

<sup>40</sup> A word by word rendition of this sentence would be, "I was gotten ahead of by him," which is not a well formed sentence in English.

Deleting the embedded NP's of the three pairs, boxed, circled, and enclosed in triangles, we get 3-(36). The boxed NP's are the example of the application of Condition IV. We should take note that the double circled NP cannot be identified with NP immediately dominated by Prop<sub>1</sub>, since 3-(38) and 3-(39) (c) are ungrammatical.

\*3-(38) zizyoo ga señsei ni titi ni (kara) imooto ni hanas sase rare ta

3-(39) (a) señsei ga titi ni imooto o takuzisyo ni azuke sase ta

"The teacher made Father leave sister at the nursery."

3-(39) (b) titi ga señsei ni imooto o takuzisyo ni azuke sase rare ta

"Father was made to leave (my) sister at the nursery by the teacher."

\*3-(39) (c) imooto ga señsei ni titi ni takuzisyo ni azuke sase rare ta

The ungrammaticality of 3-(39) (c) indicates that 3-(38) is not ill-formed because of the occurrence of an inanimate noun as the subject of Prop<sub>1</sub>, but because of a more deep rooted syntactic restrictions that matching should not go down to Prop<sub>3</sub>. This fact is well taken care of by the conditions already given, but this may be a restrictions observed by many natural languages. Then such general statements as proposed by Ross<sup>41</sup> would be more adequate than these specific statements.

There are cases where passive sentences are embedded in the causative matrix.<sup>42</sup>

3-(40) (a) and (b) are passive sentences, and 3-(41) (a) and (b) are the result of embedding.

3-(40) (a) inu ga kuruma ni hik rare ta

"The dog was hit by a car."

(b) kodomo ga haha-oya ni tatak rare ta

"The child was beaten by (his) mother."

3-(41) (a) hitobito ga inu o kuruma ni hik rare sase ta

"People made (or let) the dog hit by a car."

(b) titi-oya ga kodomo o haha-oya ni tatak rare sase ta

"The child's father made (or let) the child beaten by (his) mother."

Both 3-(41) (a) and (b) are *o*-causative sentences. 3-(40) (b) can be embedded in the matrix containing the subject identical with its Agent NP, thus satisfying Condition IV, whereas no possibility is open for 3-(40) (a) in which Agent dominates NP with [—Animate]. The result of embedding 3-(40) (b) is 3-(42).

3-(42) haha-oya ga kodomo o zibunizisiñ ni tatak rare sase ta

"The child's mother made the child beaten by herself."

This means that Agent NP can be identified with the subject of either the causative or the passive sentence. 3-(36) is the case where a causative sentence is embedded in the passive matrix, whereas in 3-(42) a passive sentence is embedded. The former case is by far the commoner of the two, though the latter is also used.

<sup>41</sup> This problem is discussed thoroughly in John Robert Ross, 1967. In this grammar, matchings are allowed to take place only between the matrix Prop and the Prop immediately dominated by the matrix VP.

<sup>42</sup> Cf. 3-(36), in which a causative sentence is embedded.

The last discussion in this section concerns the problem of *ni* in the (b) sentences of 2-(1), (2), and (3), which are repeated below for the ease of explanation.

- 2-(1) (b) imooto ga kare ni (kara) zizyoo o kik ta  
 “(His) sister heard (about) the situation from him.”
- 2-(2) (b) imooto ga kare ni (kara) hon o moraw ta  
 “(His) sister received a book from him.”
- 2-(3) (b) imooto ga kare ni (kara) hon o kari ta  
 “(His) sister borrowed a book from him.”

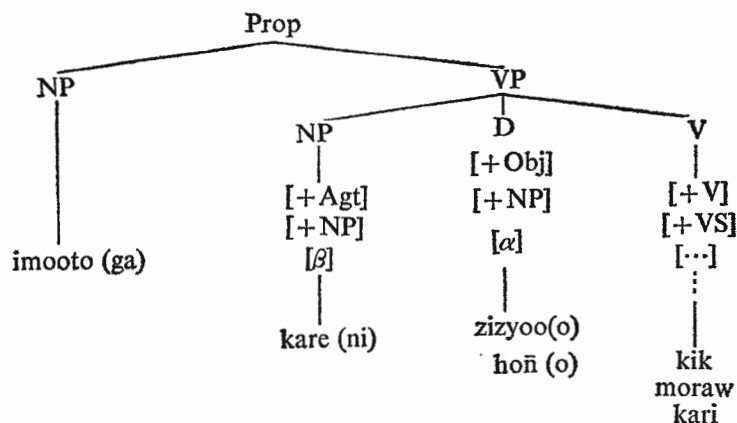
We have already discussed the substitutability of these *ni*'s by *kara*. It is interesting to note further that in the above cases *kare ni* expresses the same relationship as Agent does in the following closely related sentences.

- 3-(43) (a) imooto ga *kare ni* zizyoo o kik sase te-moraw ta  
 “(His) sister had him talk about the situation.”<sup>43</sup>
- (b) imooto ga *kare ni* zizyoo o kik sase rare ta  
 “(His) sister was made to listen to (his story about) the situation by him.”  
 (Cf. 2-(1) (b))
- 3-(44) imooto ga *kare ni* hoñ o atae rare ta  
 “(His) sister was given a book by him.”  
 (Cf. 2-(2) (b))
- 3-(45) imooto ga *kare ni* hoñ o kas te-moraw ta  
 “(His) sister had him lend her a book.”  
 (Cf. 2-(3) (b))

This fact is taken care of by substituting [+Source] by [+Agt] and raising this node to the left of the matrix D. (T7)

3-(47) is the surface structure of 2-(1) (b), (2) (b) and (3) (b).

3-(47)



<sup>43</sup> This is not an exact translation, because it is impossible to give it a word by word rendition.

3-(46) T7<sup>44</sup>

$$\begin{array}{c} \text{NP} \left[ \begin{array}{c} +D \\ +\text{Obj} \\ +\text{NP} \\ \alpha \end{array} \right] \left[ \begin{array}{c} X \left[ \begin{array}{c} +\text{Source} \\ +\text{NP} \\ \beta \end{array} \right] Y \end{array} \right]_{\text{Nuc}} Z \longrightarrow 1 - \left[ \begin{array}{c} +\text{Agt} \\ +\text{NP} \\ \beta \end{array} \right] -2-3-\phi-5-6 \\ \hline \begin{array}{cccccc} 1 & 2 & 3 & 4 & 5 & 6 \end{array} \end{array}$$

where  $\alpha \neq \beta$

T7 is applicable to a limited number of lexical items, such as *kik* "hear," *moraw*, *uketor* "receive," and *kari* "borrow." These items carry the SD feature [+SD [T7]]. Since the application of T7 is optional, we do not have to specify whether T7 is applicable to them or not, that is, we do not have to assign this rule feature to any of them.

Though this device looks ad hoc, we can find an independent motivation for this type of transformation in some sentences in which [+Loc] and [+Means] occur. (See Section 4.)

#### 4. The Status of Locative

Locative is peculiar in that it stands not only for a case feature but also for a relational category dominated by Nucleus. The reason for using the same symbol in two different ways is both semantic and syntactic, that is, they indicate the same relation, and Wa-attachment transformation<sup>45</sup> affects them in the same way. Examples of relational locatives are 4-(1), (2), (3), (4), and (5).

- 4-(1) *kono yoohuku ga imooto ni yo ru*<sup>46</sup>  
 "This dress is suitable to (my) sister."  
 4-(2) *taroo ga eigo ni yowa ru*  
 "Taroo is poor in English."  
 4-(3) *nihon ga sekiyu ni tobosi ru*  
 "Japan is poor in petroleum resources."  
 4-(4) *amerika ga teinne sigeni ni tom te i ru*  
 "America is rich in natural resources."  
 4-(5) *kuruma ga wareware ni hituyoo da*  
 "A car is necessary for us.—We need a car."

By morphological classification, the Pred's of 4-(1), (2), and (3) are adjectives, those of 4-(4) and (5) are a verb and an adjectival noun respectively.

Sentences such as 3-(18) and (19) are derived by embedding strings in matrices with D which gets [+Loc], one of the case features, copied onto it. The (b) sentences of 4-(6), (7), and (8) are some more sample sentences, and (a) sentences are embedded in the matrix of this type.

- 4-(6) (a) *kare ga sono oto o kik ta*

<sup>44</sup> T7 effects the so-called node raising.

<sup>45</sup> As for Wa-attachment transformation, see Inoue, *A Study of Japanese Syntax*.

<sup>46</sup> All the sample sentences in the paper are spelled with a kind of morphophonemic symbols, which are converted to phonological representations by phonological rules. *Yo ru* will be *yo i*.

"He heard the sound."

- 4-(6) (b) Sono oto ga *kare ni* kik re ta<sup>47</sup>

"He could hear the sound." (Potential)

- 4-(7) (a) kare ga kono zi o yom ta

"He read this letter."

- 4-(7) (b) kono zi ga kare ni yom iniku ta<sup>47</sup>

"These letters were hard for him to read." ("Ease and difficulty")

- 4-(8) (a) kare ga imooto o netam te i ru

"He is jealous of (his) sister."

- 4-(8) (b) imooto ga *kare ni* netam asi ru

"He is jealous of (his) sister."

(An adjectival construction which expresses feeling and sensation.)

Derived adjectives similar to *netamasi* "jealous" in 4-(8) (b) are *urayamasi* "envious," *hosi* "desirous," *kurusi* "torturous," *kowa* "afraid," *kawa* "fond," and so forth. The sentences with these adjectives are the result of the same embedding and matching as the potential and "ease and difficulty" sentences undergo, that is, in these cases, embedding in matrices with D containing [+Loc] and satisfaction of Condition IV are obligatory.

D with [+Loc] shares the same syntactic function with D containing [+Agt] in that both of them are identical with the subjects of embedded sentences. However, the distinction between the two is necessary, since the matrices with [+Loc] have peculiar syntactic functions discussed in Section 3. First, Condition IV is obligatory, that is, in them the matrix subjects should be identical with the embedded D containing either [+Obj] or [+Agt], that is, *oto o*, *zi o*, and *imooto o* in the (a) sentences are identified with the matrix subjects. D with [+Agt] in a passive sentence cannot be identified with the matrix subject, whereas D with [+Agt] in a causative sentence can be so identified, as is exemplified by 4-(9).

- 4-(9) (a) kare ga sigoto o su ru

"He does the work."

- 4-(9) (b) watasi ga kare ni sigoto o su sase ru

"I make him do the work."

- 4-(9) (c) kare ga watasi ni sigoto o su sase<sup>48</sup> rare ru

"I can make him do the work." (Potential)

- 4-(9) (d) kare ga watasi ni sigoto o su sase yo ru

"It is easy for me to make him do the work."

("Ease and difficulty")

*Kare ni* in 4-(9) (b) is Agent which is identified with the subjects of (c) and (d).

To eliminate the possibility of passive sentences being embedded in these locative

<sup>47</sup> *Kik re* is *kike*, and *iniku ta* is *iniku katta* by ordinary spelling.

<sup>48</sup> *Su sase* is *sase* by ordinary spelling. *Ru* after an adjective is *i* by ordinary spelling.



constructions, we can either add a specification to Condition IV in the following way or add selectional restrictions on potential and "ease and difficulty" formatives.<sup>49</sup>

4-(10) Condition IV

In [NP]  $\left[ \begin{array}{c} +D \\ +NP \\ \alpha \end{array} \right]$  [NP [+D, {+Obj}, β] X]<sub>Prop</sub> Z],

1      2      3      4      5      6

1 may be identical with 4.

If 6 contains [+Potential] or [+{ease, difficulty}], 5 should not contain [Passive].

At this point, we do not know which alternative will contribute to simplicity.

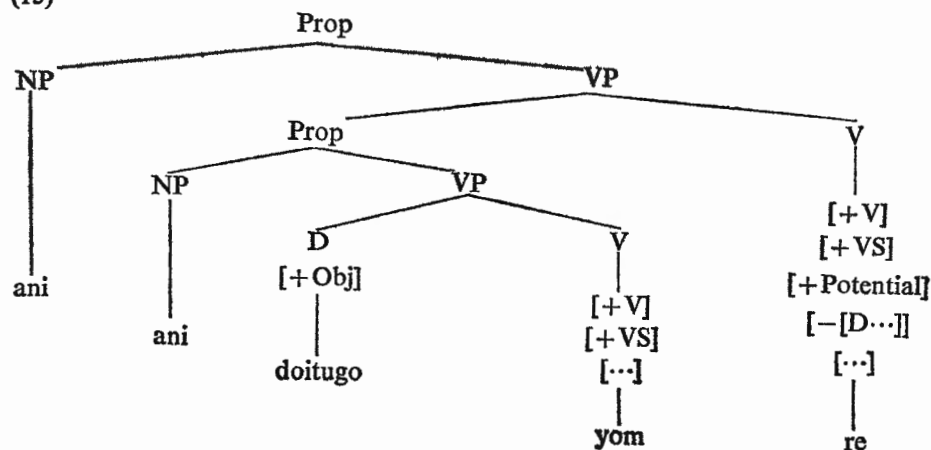
As was mentioned in Footnote 37 there is another potential construction. Compare 4-(11) and (12) with 3-(18) (b) and 4-(6) (b).

- 4-(11) (a) ani ga doitugo o yom re ru  
 (b) ani ga doitugo ga yom re ru  
 "(My) brother can read German."

- 4-(12) (a) kare ga sono oto o kik re ta  
 (b) kare ga sono oto ga kik re ta  
 "He could hear the sound."

There is a distinct semantic difference between the two pairs. For 3-(18) (b), the word by word translation is "German is readable to (my) brother," that is, German has "Potentiality," while in 4-(11) it is the brother who has the potentiality. Also, in 4-(6) (b), the sound is audible, while in 4-(12) "he" has the ability to hear the sound.<sup>50</sup> This

4-(13)



<sup>49</sup> Since the adjectivalizer *asi*, which appears in 4-(8) (b), allows a limited number of verbs to occur in embedded sentences, it has to carry a selectional restriction feature.

<sup>50</sup> This fact was brought to my attention by Kuno's paper, in which only sample sentences as 4-(11) and (12) are given. My former grammar ignored the distinction and treated only the cases similar to 3-(18) (b) and 4-(6) (b).

difference arises from the difference of matrices. The former case is the result of embedding in matrices with D, but the latter have matrices without D. Therefore, the underlying structure for 4-(11) (a) is 4-(13). Since the matrix does not contain D, Condition I applies to this string obligatorily.

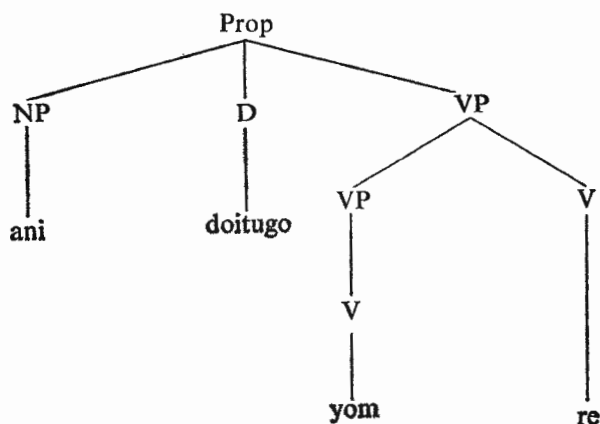
The (b) sentences of 4-(11) and (12) are the result of the following transformation, in which a node raising similar to that effected by T7 is achieved.

4-(14) T8

$$\begin{array}{ccccccccc} \text{[NP [X} & \left[ \begin{array}{c} +\text{Obj} \\ +\text{NP} \\ \alpha \end{array} \right] & \text{D} & \text{Y]}_{\text{Prop}} & \text{Z]}_{\text{Prop}} & \longrightarrow & 1 - & \left[ \begin{array}{c} +\text{NP} \\ \alpha \end{array} \right] & \text{D}^{-2-\phi-4-5} \\ \hline 1 & 2 & 3 & 4 & 5 & & & & \end{array}$$

By [T8 +Obj] is deleted and the node D is transposed to the right of the subject of the matrix string, resulting in some such string as 4-(15).

4-(15)



NP's directly dominated by Prop get *ga* spelled in after them, so that both *ani* and *doitugo* appear with *ga* in 4-(11) (b). The situation is the same with 4-(12) (b).

*Ita* "be desirous of" has the same derivation, as is exemplified by 4-(16).

4-(16) (a) *watasi ga meroñ o tabe ru*

"I eat a melon."

(b) *watasi ga meroñ o tabe ita ru*<sup>51</sup>

"I want to eat a melon."

(4-(16) (a) is embedded in a matrix without D.)

(c) *watasi ga meroñ ga tabe ita ru*

(The result of the application of T8.)

The italicized phrase in 4-(17) is not subject to T8, since it does not occur in Prop

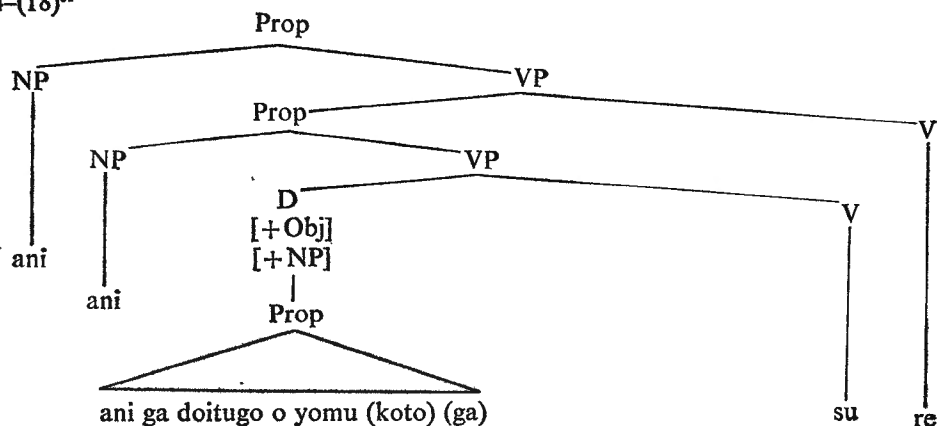
<sup>51</sup> *Tabe ita ru* becomes *tabetai*.

immediately dominated by the matrix VP, as is indicated by 4-(18).<sup>52</sup>

4-(17) ani ga *doitugo o yomu koto ga sure ru*<sup>53</sup>

"(My) brother can read German."

4-(18)<sup>54</sup>



We discussed on Page 254 the problem of selectional restrictions on *nar* "become" and *su* "make," that is, they have to have verbs with [-VS] in the embedded sentence. When we have [+VS] for the position, *yoo ni* "in the manner as" appears. But this formative does not seem to carry the original meaning in this context, as in the following examples:

4-(19) kodomo ga hoñ o yom ru yoo ni nar ta

"The child has started reading a book."

4-(20) (a) doitugo ga ani ni yom re ru yoo ni nar ta

"German has become readable to (my) brother."

(With 3-(18) (b) as the embedded string.)

(b) ani ga doitugo o (ga) yom re ru yoo ni nar ta

"(My) brother has come to be able to read German."

(With 4-(11) (a) and (b) as embedded strings.)

In the above the same embedding as 1-(15) took place. The following are examples for the type of embedding 1-(16) has undergone.

4-(21) (a) watasi ga kono hoñ o kodomo ni yom re ru yoo ni su ta

"I made this book readable to the child."

<sup>52</sup> This is the same problem taken up on p. 271.

<sup>53</sup> *Sure ru* is converted to *deki ru*.

<sup>54</sup> Since NP is not developed in this grammar, this P-marker is a very rough approximation. There is one problem in this treatment of D, because copying the features of NP should also apply to the NP's which dominate Prop. 4-(18) is one of the examples of this kind. It is obvious that all sorts of technical problems are involved in this type of copying. And it may be better to rewrite D to NP by a base rule and to have a matching condition instead of the copying transformation proposed here, (T3). But this will of course obscure the distinction between relational nodes and D.

- (b) *watasi ga kodomo o kono hon ga yom re ru yoo ni su ta*  
 "I enabled the child to read this book."  
 4-(22) (a) *watasi ga doitugo o ani ni yom re ru yoo ni su ta*  
 "I made German readable to (my) brother."  
 (b) *watasi ga ani o doitugo ga yom re ru yoo ni su ta*  
 "I enabled my brother to read German."

If it is agreed that *yoo ni* does not carry its own semantic value, we can remove the selectional restriction on *nar* and *su*, i.e., [+... [-VS]\_\_\_\_\_].

There are some phrases which express "means" or "cause," as are exemplified by the italicized phrases in 4-(23) and (24).

4-(23) *kare ga ame de nure ta* "He got wet with rain."

4-(24) *kare ga sono kotoba de kizutuk ta*  
 "He got hurt by that word."

The particle *de* in the above sentences can be replaced by *ni*, which appear after [+NP, +Agt]. Compare and see the similarity between the (a) and (b) sentences of 4-(25) and (26).

- 4-(25) (a) *kare ga ame ni nure ta* "He got wet with rain."  
 (b) *kare ga ame ni nuras rare ta* (A similar meaning as 4-(25) (a).)  
 (A passive sentence with *ame ga kare o nuras* "The rain made him wet." as its embedded sentence.)  
 4-(26) (a) *kare ga sono kotoba ni kizutuk ta*  
 "He got hurt by that word."  
 (b) *kare ga sono kotoba ni kizutuke rare ta*  
 (A similar meaning as 4-(26) (a).)  
 (A passive sentence with *sono kotoba ga kare o kizutuke ta* "That word hurt him," as its embedded sentence.)

*Ame ni* in 4-(25) (b) and *kotoba ni* in 4-(26) (b) are agent phrases. From these facts, it seems to be natural to think that Condition II, III, and T7 should be expanded to apply to Means as well.

## 5. Conclusion

The conditions presented here are the structural descriptions for equivalent NP deletion, that is, if a string satisfies any of the condition, deletion takes place in the string, unless otherwise specified. They can be reasonably interpreted as conditions for embedding. The transformations and conditions apply cyclically in the following order: transformations 1, 2, 3, conditions I, III, II, IV, transformations 6, 4, equivalent NP deletion, and lastly transformations 5, 6, 7, and 8.<sup>55</sup>

This paper is an attempt to show very regular correspondences among Japanese

<sup>55</sup> I owe the revision of the order of conditions III, II, which was originally II, III, to Mr. Yuji Nishiyama, who also gave me other valuable suggestions. (Personal communication.)

sentences, by (1) setting up Nucleus, (2) distinguishing matrices with D from those without D, and (3) using matching conditions for deletion rather than using selectional restrictions on embedded or matrix strings. Because of (1), the correspondences among particles which have been overlooked in previous works were brought to light. One example of this is the correspondence between *kara* and *ni* discussed at the beginning of Section 2. (2) and (3) have clarified, for example, that the correspondence between *o* in a verb construction and *ga* in a non-verb construction, which has often been stated in previous grammars, is wider in scope, extending to the correspondence between some kind of *ni* and *ga* in the same contexts. Further, this device has shown fairly systematic structural changes in Japanese.

This grammar owes much to Fillmore's "Case Grammar," but is entirely different in many significant points. What this grammar claims is that all the "cases" are not linearly strung together, but some of them, i.e., Subject, Object, Agent, and Locative, have important syntactic functions based on P-markers.

Relational categories (or features) and the so-called cases seem to me to be two different notions. This is clear when we reflect a moment on the functions of cases in highly inflected languages where relational notions and cases do not necessarily coincide. Japanese is not a highly inflected language, but we can see that the node which is positively employed in complex sentence building, i.e., D, is syntactically very different from relational categories.

Instead of developing optional relational categories, we can assign to Pred relational features which are to be developed later into categorial nodes. In this case, however, we have to solve first some technical problems related to the choice of one or more relational features, in building a certain sentence, from among obviously quite a few possible Pred features. For example, the verb *ik* "go" has features, such as [Movement], [Source], [Goal], [Means], [Comitative], etc., but in a sentence all the features are not necessarily chosen.

THE INTERNATIONAL CHRISTIAN UNIVERSITY, JAPAN

#### BIBLIOGRAPHY

- Bloch, Bernard, "Studies in Colloquial Japanese IV: Derivation," *Journal of the American Oriental Society*, (1946).
- Chomsky, Noam, *Aspects of the Theory of Syntax*, Cambridge, Mass., The MIT Press, 1965.
- Fillmore, Charles J., "A Proposal concerning English Prepositions," Georgetown University Monograph No. 19 on Languages and Linguistics (1966).

- Fillmore, Charles J., "Case for Case" to appear in Emmon Bach and Robert Harms, eds., *Proceedings of the Texas Symposium on Language Universals*, 1967.
- Hall, Barbara C., "Subject and Object in Modern English," Ph. D. thesis, MIT, 1965.
- Hashimoto, Mantaro J., "The Internal Structure of Basic Strings and a Generative Treatment of Transitive and Intransitive Verbs," unpublished paper read at the International Seminar in Linguistic Theory, Tokyo, 1966.
- Inoue, Kazuko, *A Study of Japanese Syntax*, (To appear, The Hague: Mouton).
- Kuno, Susumu, "Case-marking in Japanese," unpublished paper.
- Lakoff, George, *On the Nature of Syntactic Irregularity*, MLAT Report No. NSF-16.
- Okutsu, Keiichiro, "Intransitivization, Transitivity, Polarization," *Kokugogaku*, 1967.
- Ross, John R., "A Proposed Rule of Tree-Pruning," MLAT Report, NSF-17, Part IV, 1967.
- Ross, John R., "Constraints on Variables in Syntax," Ph. D. thesis, MIT, 1967.
- Soga, Matsuo, "Some Syntactic Rules of Modern Colloquial Japanese," Ph. D. thesis, Indiana University, 1966.

# ON THE PART-WHOLE RELATION AND ITS LINGUISTIC CONSEQUENCES

MILKA IVIĆ

1. "Even if we see the things which the word denotes, we do not know which features of them the natives are used to pay attention to. We often fail to grasp the sememe of a foreign verb even when the natives demonstrate before us the action denoted by it, because we are often accustomed to pay attention to the different features of the action than the natives are accustomed to." This observation was made by Professor Shirô Hattori.<sup>1</sup> Its importance has already been noticed.<sup>2</sup> As for myself, I was stimulated by it to approach the linguistic problem of the part-whole relation, sharing the belief that actual differences in its expression must, to some extent, be based on different choices of meaning features considered pertinent for its semantic interpretation.

2. The part-whole relation occurs if the following conditions are met: there are two entities, A and B, such that B is interpreted as a part of A.

The part-whole relation may be either (1) of the inherent or (2) of the accidental type. In (1), B is organically connected with A (as *leg*, *eyes*, or *nose* with *man*), while in instance (2) the relation depends on subjective criteria (not only any appropriate object but even a human being may be conceived of as a mere tool for the action, like *fist* or *knife*, if the social structure of the speaking society happens to be favorable for such an interpretation).<sup>3</sup> We are concerned here only with the inherent type of the

<sup>1</sup> Shirô Hattori, "The Analysis of Meaning," *For Roman Jakobson, Essays on the Occasion of His Sixtieth Birthday*, 1956, The Hague, p. 210.

<sup>2</sup> Cf. for example: "Si l'on peut prouver que deux langues différentes analysent l'expérience non-linguistique de manière différente, ce n'est pas en se fiant à l'analyse linguistique, puisque des structures totalement différentes peuvent signifier arbitrairement des situations tout à fait semblables. C'est, comme aide à bien le voir Hattori, par une analyse conjointe des traits sémantiques pertinents des énoncés d'une part, et des traits sémantiquement pertinents des situations auxquels ces énoncés se réfèrent."—Georges Mounin, *Les problèmes théoriques de la traduction*, Bibliothèque des idées, édition Gallimard, 1963, p. 268.

<sup>3</sup> This was obviously true for the Indo-European speaking society of the prehistorical period. It is brought to evidence by the earliest records of the use of case forms denoting the means for the action. Thus, for instance, in Latin "avec des personnes, c'est per+accus. qui devient l'expression usuelle... L'ablatif de moyen ne subsiste guère que: a) pour désigner des individus servant d'instrument passif (esclaves, soldats etc.)...; b) dans quelques tournures fixées: *cauere obsidibus praedibus*..., *conuincere aliquem testibus*..." (Alfred Ernout et François Thomas, *Syntaxe latine*, Paris, 1951, p. 77). Similar facts have been observed elsewhere too, especially in Slavic languages which are in general archaic as

part-whole relation.

Although the pertinence of the part-whole relation is evidenced in various circumstances of linguistic behavior,<sup>4</sup> we shall here limit the scope of our attention to instances where A (i.e., the whole-noun) functions as the subject or the direct object of a sentence. Only Indo-European linguistic data will be utilized as material for exemplification.

3. A whole-noun A may have any of the following three references:

- ( $\alpha$ ) the agent of the action (i.e., the subject in a non-passive sentence);
- ( $\beta$ ) the recipients<sup>5</sup> of a given quality (i.e., the subject in sentences like *he is blue in the face*);
- ( $\gamma$ ) the patient of the action (i.e., either the direct object in a non-passive sentence or the subject in a passive sentence).

As for the corresponding functions of B in ( $\alpha$ ), ( $\beta$ ), and ( $\gamma$ ) respectively, they are interpreted with consideration of the fact that B is inherently related to A.

4. It is obvious that the part-whole relation may be viewed in different aspects depending on the focus of our attention, which may be centered on any of the following three semantic features:

- (a) B is dominated by A (the *hierarchy feature*);
- (b) A and B are non-identical entities (the *non-identity feature*);
- (c) B is included into A (the *union feature*).

Any of those features may become operative in the semantic interpretation concerning

---

regards the use of cases (today, however, it is no longer possible to denote a human being as the tool for the action by the instrumental case form; for more information see: Milka Ivić, *Značenja srpskohrvatskog instrumental i njihov razvoj*, Special Edition of the Serbian Academy of Sciences, t. CC XXVII, Belgrade, 1954, pp. i-viii + 1-298, with a summary in German). The validity of subjective criteria for the constitution of the part-whole relation has also been noticed outside the realm of Indo-European speaking societies. Thus, for instance, according to Lévy-Bruhl: "Le Mélanésien dit mon frère, mon oncle (maternel) de la même façon qu'il dit mon œil, mon bras; c'est-à-dire qu'il se sent faire partie de son groupe familial de la même manière que le bras fait partie du corps" ("L'expression de la possession dans les langues mélanésiennes," *Mémoires de la Société de linguistique* 19, 1916, p. 100). About the same time (in 1917) C. Uhlenbeck pointed out that in some Amerindian languages it is possible to express grammatically the part-whole relation if body parts, tools, and kinsmen are concerned ("Het indentificerend karakter der possessieve flexie in talen van Nord-America," *Verslagen and mededelingen der kon. Akademie van Wetenschappen* V, 2, 4, Amsterdam). Similar facts have been observed by O.P. Sunik in the Manchu Tungus group of languages (see O.P. Sunik "O kategorii otčuzdaemoj i neotčuzdaemoj prinadležnosti v tunguso-man'čžurskix jazykax," *Izvestija Akademii nauk SSSR, otdelenie literatury i jazyka*, V, 5, 1947, pp. 437-452).

<sup>4</sup> Thus, for instance, the part-noun may be used to qualify the whole-noun only if combined with a determiner (which is therefore non-omissible; cf. *a man with a big nose* → *\*a man with a nose*). For more information see Milka Ivić, "Les causes sémantiques du phénomène syntaxique nommé 'déterminant obligatoire'" (to be published in the *Proceedings of the Xth International Congress of Linguists*; summary already published in *Abstracts of Papers*, Bucharest, 1967, p. 159).

<sup>5</sup> According to Regula's use of the term, see M. Regula, "Les formes du sujet et du prédicat," *Omagiu lui Iorgu Iordan*, Academia Republicii populare române, 1956, pp. 721-728.



a function of B, although actually a free choice is either precluded or at least restricted. As a matter of fact, it is according to the occurrence of ( $\alpha$ ), ( $\beta$ ), and ( $\gamma$ ) that the operation of a given feature happens to be required, excluded, or optionally selected. The optional selection deserves particular attention since it reveals actual differences in the psychological approach to things, i.e. precisely that sort of phenomenon which has been observed by Professor Hattori.<sup>6</sup>

5. If instance ( $\alpha$ ) occurs, B participates in the action owing to the fact that it is set in motion by the actor A. As to the action, it may either (I) require or (II) exclude the participation of a direct object C.

In case of (I), B is invariably interpreted as a particular conveyer of the activity displayed by A. The operation of the hierarchy feature is here obvious: the rôle of B is close to the rôle of A but hierarchically of a lower rank. The operation of both union and non-identity features is here precluded.

The 'conveyer' function of B may be viewed in some instances as having emphasis laid on the meaning 'by means of.' Usually the distinction of the emphatic vs. non-emphatic interpretation is not linguistically disclosed, although there are languages which express it. Thus in French, for instance, there is an opposition concerning the use of the preposition *avec* (marked) vs. *de* (unmarked) in examples like *on regarde avec les yeux* 'one sees with his eyes,' *on écoute avec les oreilles* 'one listens with his ears' vs. *dévorer des yeux* 'to gaze upon,' *écouter d'une oreille* 'to listen with a single ear.'

In case of (II), the very fact that there is no C involved in the event denoted by the verb creates a somewhat different situation for B, yielding the possibility of a free choice as regards the pertinence of (1) the hierarchy and (2) the non-identity feature.<sup>7</sup>

The occurrence of (1) means that attention is being paid once more to the behavior of B viewed as a sort of device for disclosing the actor function of A. The occurrence of (2), on the contrary, means that B is being considered to behave as an entity non-identical to A which is covered by the activity of A.

Modern Indo-European languages vary as regards the choice of (1) and (2), which is shown by the use of corresponding morphological devices. In Russian, for example, the use of the Instrumental of means is maintained while in English the direct object case form is required (cf. *povesti brovjami*—to raise one's brows, *ševelit' gubami*—to move one's lips, *topat' nogami*—to stamp one's feet, *skripet' zubami*—to grit one's teeth, *udarit' sja golovoj o dver'*—to strike one's head against the door, etc.). As for French, both (1) and (2) may be chosen, at least in principle; the actual choice depends on the lexical item functioning as predicate (cf. the use of *de* for (1) in: *taper des pieds* 'to stamp

<sup>6</sup> *Op. cit.*

<sup>7</sup> Exceptionally, if the verb means 'to suffer' B may be interpreted either as in (1) or as the causer of the action. In Slavic languages, for instance, there is evidence for both interpretations (cf. the instrumental case form in the Russian example *on stradal želudkom* 'he suffered from his belly' and the ablative construction in the corresponding Serbocroatian example: *on je patio od želudca*).

one's feet,' *grincer des dents* 'to grit one's teeth,' *cligner de l'oeil* 'to wink'; cf. the use of the direct object case form for (2) in: *froncer les sourcils* 'to frown,' *remuer les lèvres* 'to move one's lips,' *hocher la tête* 'to shake one's head').

6. The occurrence of ( $\beta$ ) means that a given quality which belongs to B concerns A too (since B is a part of A), i.e., that the recipients function of A is caused by the recipients function of B (in contradistinction to instance ( $\alpha$ ) where the activity of B is caused by the activity of A).

The semantic interpretation of the A-B relation is most frequently based here on the non-identity feature. First of all, B may very easily become the subject of the sentence instead of A. If this occurs, the qualifier constitutes the predicate (in combination with the copula) while A is denoted as the possessor of B (as in the English example *his eyes are blue*). If, however, the subject function belongs to A, then the qualifier determines B, which is the direct object of a verb meaning 'to have' (as in the English example *he has blue eyes* or the corresponding French construction *il a des yeux bleux*).

The choice of the hierarchy feature is also possible, although it occurs less frequently. When it does, two slightly different interpretations may appear: B is conceived (1) as a particular spot on A which discloses a quality belonging to A or (2) as a sort of device used to convey a particular behavior of A. In (1) the rôle of B is grammatically expressed by means of morphological forms which also serve to denote spatial relations (cf. English *he is blue in the face*, *he is weak in the head* or German *er ist blau im Gesicht*, *er ist schmutzig an der Hand*, etc.), while in (2) it is expressed in the same way as in ( $\alpha$ ) (in Slavic languages, for instance, by means of the instrumental case form, as in the Serbocroatian example *tanka strukom* 'small in girth,' 'slim,'<sup>8</sup> and in French by means of the preposition *de*, as in *Sylvie est jolie des yeux*<sup>9</sup>).

7. The occurrence of ( $\gamma$ ) means that A is interpreted as patient owing to the fact that B is being covered by the given action.<sup>10</sup> It is obvious that ( $\gamma$ ) and ( $\beta$ ) are much more similar to each other than either of them to ( $\alpha$ ). However, there is still a slight difference between them: in ( $\beta$ ) the event denoted by the predicate concerns A only indirectly, through the fact that B belongs to A, while in ( $\gamma$ ) it is easy to imagine that both A and B, as a single whole, endure the patient function (*he has a big nose* does

<sup>8</sup> For more information about the actual use of the Instrumental in those instances see *Značenja srpskohrvatskog instrumentalnoga...*, pp. 111–113.

<sup>9</sup> For more information about the occurrence of that sort of example in French, see Henri Frei, "Sylvie est jolie des yeux," *Mélanges de linguistique offerts à Charles Bally*, Genève, 1939, 185–192.

<sup>10</sup> If A functions as patient, the agent is, as a rule, an (either known or unknown) entity C. It is only in instances where the verb refers to an unpleasant physical sensation of A that B denotes the agent (cf. *my leg hurts me*). However, even there it is possible to maintain the hierarchy feature in operation. Thus, in Slavic languages it happens that the sentence is constituted without subject but with A marked as direct object of the given action and with B expressing the very spot on which the patient function of A comes to evidence, as in Serbocroatian *grebe me u grlu*, lit. 'it is tickling me in the throat.'

not mean *he is big*, but *he knocked me on the head* does mean *he knocked me*).

In contradistinction to ( $\beta$ ), ( $\gamma$ ) precludes the operation of the non-identity feature; it is only (I) the hierarchy feature or (II) the union feature which may be demonstrated as pertinent.

The occurrence of (I) means, as a rule, that B is being interpreted as a particular spot on A covered by the action of C (cf. German *er traf mich an den Kopf*, and the corresponding French and English examples *il me frappa à la tête*, *he knocked me on the head*; Russian *on udaril menja po ščeke*, and the corresponding French and English examples *il me frappa au visage*, *he gave me a slap in the face*). The 'conveyer' type of grammatical expression for B is usually avoided in such cases, which may be explained as a tendency to preclude any possibility for ambiguous interpretations (if, for example, *John* is denoted as agent, and *Bill* as patient of a given action with a meaning like 'to knock,' 'to hurt,' 'to give a slap,' 'to hit,' etc., then a B which refers to entities like *hand, fist, elbow* has to be grammatically marked in such a way that no ambiguity arises as regards the choice of A). However, there is some linguistic evidence for the 'conveyer' type of semantic interpretation here too (earlier records of Slavic languages provide a few examples of this sort; cf. Old Serbocroatian *ako bi tko koga oklastio rukom* 'if it happens that somebody mutilates one's hand' where the instrumental case form is used to denote the function of *hand*<sup>11</sup>).

The occurrence of (II), recorded in old Indo-European languages like Homer's Greek or Hittite,<sup>12</sup> means that both A and B (since they are inherently related to a single whole) are conceived of as enduring the performance of the action. Thus, A and B carry an identical grammatical mark (cf. the use of two accusative case forms in the Classical Greek example: *Tòn d'aori plêx' auchéna* 'he knocked him on the nape'<sup>13</sup>). The pertinence of the union feature is, however, attested only for the earlier stages of Indo-European linguistic evolution. Today the choice of the hierarchy feature is, as a rule, obligatory in ( $\gamma$ ).<sup>14</sup>

<sup>11</sup> For more details see *Značenja srpskohrvatskog instrumentalnoga...*, § 9.

<sup>12</sup> Cf. Delbrück's statement concerning instances where "das Ganze wird in einem seiner Theile durch die Handlung des Verbums betroffen" in *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*, Band III, Syntax, Strassburg, 1893, pp. 378 and 385. Fairly recently E. Adelaide Hahn, when explaining examples from ancient languages meaning 'striking a man's belly' or 'pleasing a man's heart,' pointed out that she has noted "a marked tendency on Homer's part to use either two accusatives or two datives, suggesting that for him the construction is still partitive apposition"—see "Verbal Nouns and Adjectives in Some Ancient Languages," *Language*, Vol. 42, No. 2, 1966, p. 389, fn. 63.

<sup>13</sup> The example is quoted by Charles Bally who maintains, as many other linguists do, that "l'accusatif de spécialisation" is by origin an apposition (cf. "*Tòn d'aori plêx' auchéna*: a une première époque, le sens a été 'Il le frappa. (Il frappa) sa nuque'; ensuite seulement 'Il le frappa à la nuque'" — *Linguistique générale et linguistique française*, Berne 1950, p. 72.

<sup>14</sup> There are still a few examples like in English *to be tied hand and foot* which could perhaps be interpreted as disclosing the pertinence of the union feature.

8. It is obvious that the same sort of analysis, if applied to a typologically quite different group of languages, would disclose a different set of linguistic consequences concerning the pertinence of the part-whole relation. I should like here, for example, to call attention to some particular features of Japanese, observed recently by Edward Herman Bendix.<sup>15</sup>

According to Bendix, the distribution of the Japanese constructions (1) *A wa B ga aru* and (2) *A wa B o motte iru* (both with the meaning 'A has B') depends on the interpretation of (a) inherent vs. (b) non-inherent A-B relations:<sup>16</sup> whenever (b) occurs, it is (2) which has to be chosen, since (1), being the marked counterpart of (2), precludes the choice of (b). From the viewpoint of our analysis it means that Japanese, in contradistinction to Indo-European languages, discloses the operation of the union feature in ( $\beta$ ).

Further investigations in this direction would certainly enrich our knowledge about the range of varieties caused by differences in both the actual rules governing sentence construction and the psychological approach to things and their relations. It might even happen (let us hope at least) that they would throw some light on the challenging problem of linguistic universals.

UNIVERSITY OF NOVI SAD, YUGOSLAVIA

<sup>15</sup> "Componential Analysis of General Vocabulary: the Semantic Structure of a Set of Verbs in English, Hindi, and Japanese," *International Journal of American Linguistics*, Vol. 32, No 2, Part II, 1966, pp. 103-115.

<sup>16</sup> In Japanese the list of part-nouns also includes lexical items referring to kinsmen.

# PROSODIC POSSIBILITIES IN PHONOLOGY AND MORPHOLOGY

PAVLE IVIĆ

In my paper "The Functional Yield of Prosodic Features in the Patterns of Serbocroatian Dialects," *Word* 17, 1961, 293-308, I tried to introduce the concept of the range of prosodic possibilities into the study of phonological typology.<sup>1</sup> The number of those possibilities in an  $n$ -syllabic word<sup>2</sup> appears to be an index of the role of prosodic phenomena in the pattern of the given language. Of course, we are dealing here with word phonology (rather than with facts pertaining to the levels of phrase or sentence) and with the distinctive function of prosodic phenomena (rather than with their culminative, delimitative or expressive function).

The aim of the present paper is twofold: to elaborate on some aspects of the problem as far as the domain of phonology is concerned, and to investigate the applicability of the concept of prosodic possibilities to morphological description.

The functional load of prosodic phenomena in linguistic patterns without prosodic oppositions can be represented by the formula<sup>3</sup>

$$(1) \quad P_n = 1.$$

One possibility means of course no selection and no distinctive function. This applies to many languages, varying greatly as to the phonetic realization of the prosodic uniformity of the word. French has an automatic stress on the ultima, Polish on the penultima, Standard Macedonian on the antepenultima, Upper Lusatian on the initial syllable, and so on. A comparable case is that of the Japanese dialects of Fukushima and Kumamoto.<sup>4</sup>

---

<sup>1</sup> The same idea was applied in my paper "Broj prozodijskih mogućnosti u reči kao karakteristika fonoloških sistema slovenskih jezika" (with a summary in Russian), *Južnoslovenski filolog* XXV, Belgrade, 1961-62, 75-113, and by Ilse Lehist, "The Function of Quantity in Finnish and Estonian," *Language* 41, 1965, 447-456.

<sup>2</sup> The term "word" is used in this paper in the sense of "accentual word" or "prosodeme" (in Professor Shirō Hattori's terminology, cf. his work "Prosodeme, Syllable Structure and Laryngeal Phonemes," *Studies in Descriptive and Applied Linguistics*, International Christian University, Tokyo, Bulletin of the Summer Institute in Linguistics, I, July 1961, pp. 5 ff.).

<sup>3</sup> In the formulas given in this paper,  $P_n$  denotes the number of prosodic possibilities in a word consisting of  $n$  syllables.

<sup>4</sup> Shirō Hattori, *op. cit.* 10. In the formulas for Japanese given in the present paper quantity is disregarded. Japanese linguistics strictly separates quantity from accentual (tone) features. This

In languages with a distinctive and free place of accent, e.g., in Russian, Rumanian, or Bulgarian, the formula will be:

$$(2) \quad P_n = n.$$

In Tokyo Japanese the distinctive function is accomplished by the accent kernel which can appear in any syllable ( $P'_n = n$ ), or be absent ( $P''_n = 1$ ), which gives

$$(3) \quad P_n = P'_n + P''_n = n + 1.$$

This amounts to three possibilities in disyllabic words ( $\bigcirc\bar{\bigcirc}$ ,  $\bigcirc\bigcirc\bar{\bigcirc}$ , and  $\bigcirc\bigcirc\bigcirc$ ),<sup>5</sup> four possibilities in trisyllabic words ( $\bigcirc\bar{\bigcirc}\bigcirc$ ,  $\bigcirc\bigcirc\bar{\bigcirc}$ ,  $\bigcirc\bigcirc\bigcirc\bar{\bigcirc}$ , and  $\bigcirc\bigcirc\bigcirc\bigcirc$ ), etc.<sup>6</sup>

In Czech, where only quantity is distinctive, and is independently variable in each syllable, the formula<sup>7</sup> is

$$(4) \quad P_n = 2^n,$$

which provides two possibilities in monosyllabic words ( $\bigcirc$  and  $\bigcirc:$ ), four possibilities in disyllabic words ( $\bigcirc\bigcirc$ ,  $\bigcirc:\bigcirc$ ,  $\bigcirc\bigcirc:$ , and  $\bigcirc:\bigcirc:$ ); eight in trisyllabic words, and so on. This is also the case in Hungarian (which, however, also has oppositions between short and long consonants, independent from vocalic quantity) and in Classical Latin. An automatic stress falls on the initial syllable in Czech and Hungarian, and on the syllable containing the last but one mora before the ultima in Latin.

Formula (4) is effective also with quantity in Ancient Greek. However, the place of accent, too, played a distinctive role in that language. In principle, the accent could fall on the ultima (with the additional contrast between circumflex and acute when the ultima is long), on the penultima (with an automatic distribution of the two types of long accents), and on the antepenultima (only if the ultima is short). This provides:

- a) 3 possibilities in monosyllabic words:

$\bigcirc\bar{\bigcirc}$ ,  $\bigcirc\bar{\bigcirc}:$ ,  $\bigcirc:\bar{\bigcirc}$

- b) 10 possibilities in disyllabic words:

$\bigcirc\bigcirc\bar{\bigcirc}$ ,  $\bigcirc:\bigcirc\bar{\bigcirc}$ ,  $\bigcirc\bigcirc\bar{\bigcirc}:$ ,  $\bigcirc:\bigcirc\bar{\bigcirc}:$ ,  $\bigcirc\bigcirc\bigcirc\bar{\bigcirc}$ ,  $\bigcirc:\bigcirc\bigcirc\bar{\bigcirc}$

$\bigcirc\bar{\bigcirc}\bigcirc$ ,  $\bigcirc\bar{\bigcirc}\bigcirc:$ ,  $\bigcirc\bar{\bigcirc}:\bigcirc$ ,  $\bigcirc:\bar{\bigcirc}\bigcirc$

practice, reflecting certain peculiarities of the Japanese language (including its dialects) is as well founded as the treatment of quantity together with accent and tonal features in other languages with different properties, e.g., with a distributional interdependence of quantity and accent. Nevertheless formulas for Japanese which would include quantity could also have a certain typological interest.

<sup>5</sup> In the present paper the symbol  $\bigcirc$  denotes a syllable nucleus (except where it is explicitly stated that it denotes a mora), and symbol  $\bar{\bigcirc}$ , the accent (regardless of its physical realization). Of course, the symbol  $:$  denotes length, so that  $\bigcirc\bar{\bigcirc}$  represents a long syllable nucleus with an accent on the first mora, and  $\bigcirc:\bar{\bigcirc}$  such a nucleus accented on the second mora.

<sup>6</sup> It must be stressed that the Japanese material quoted in this paper was always given in the sources in a form making the number of prosodic types explicit, whereas for other languages it was as a rule necessary to determine that number by interpreting descriptive statements and examples given in grammars and dictionaries.

<sup>7</sup> Our formulas, unless stated otherwise, apply to words of any length (measured in syllables). In most cases, in words with a low number of syllables, all possible types actually exist in the language, and "for longer words, the claim can be made that every existing word will fit into the pattern, but not every possibility provided by the formulas is utilized in the language" (I. Lehist, *op. cit.* 448).

## c) 24 possibilities in trisyllabic words:

$\circ\circ\circ\bar{\cdot}$ ,  $\circ:\circ\circ\bar{\cdot}$ ,  $\circ\circ:\circ\bar{\cdot}$ ,  $\circ:\circ:\circ\bar{\cdot}$   
 $\circ\circ\circ\bar{\cdot}$ ,  $\circ:\circ\circ\bar{\cdot}$ ,  $\circ\circ:\circ\bar{\cdot}$ ,  $\circ:\circ:\circ\bar{\cdot}$   
 $\circ\circ\circ\bar{\cdot}$ ,  $\circ:\circ\circ\bar{\cdot}$ ,  $\circ\circ:\circ\bar{\cdot}$ ,  $\circ:\circ:\circ\bar{\cdot}$   
 $\circ\circ\bar{\cdot}\circ$ ,  $\circ:\circ\bar{\cdot}\circ$ ,  $\circ\circ\bar{\cdot}\circ$ ,  $\circ:\circ\bar{\cdot}\circ$   
 $\circ\circ\bar{\cdot}:\circ$ ,  $\circ:\circ\bar{\cdot}:\circ$ ,  $\circ\circ\bar{\cdot}:\circ$ ,  $\circ:\circ\bar{\cdot}:\circ$   
 $\circ\bar{\cdot}\circ\circ$ ,  $\circ\bar{\cdot}\circ:\circ$ ,  $\circ\bar{\cdot}:\circ\circ$ ,  $\circ\bar{\cdot}:\circ:\circ$

Words consisting of more than three syllables had in principle the same number of accentuation possibilities as trisyllabic words, since the accent as a rule could not stand on the fourth or further syllables from the end of the word. However, quantity in those syllables was free, so that the addition of each new syllable meant a new binary choice, i.e., a doubling of the theoretical number of prosodic possibilities. This gives 48 types for tetrasyllabic words, 96 for the pentasyllabic ones, and so on. Thus,

$$(5) \quad P_n = 3 \cdot 2^n$$

for trisyllabic and longer words ( $n \geq 3$ ).

Monosyllabic and disyllabic words must be treated separately. They can be embraced, together with trisyllabic words, by the formula

$$(6) \quad P_n = 3 \cdot 2^n - 4 + 2^{n-1}$$

The incompatibility of a long ultima with the antepenultimate accent classifies Ancient Greek among languages with a distributional interdependence of accent and quantity. This is also reflected by the number of prosodic possibilities. Without the limitation mentioned, the number of possibilities in trisyllabic and longer words would not be  $3 \cdot 2^n$ , which implies three accentual possibilities combined with each quantity type,<sup>8</sup> but  $\frac{7}{2} \cdot 2^n$ , since words with a long ultima would allow four places of accent. This

<sup>8</sup> It is not by chance that formula (5) agrees with R. Jakobson's observations ("On Ancient Greek Prosody," *Selected Writings I*, The Hague, 1962, pp. 262-271) to the effect that there were *three* possible types of accent in Greek words with a given syllabic and quantity structure: enklitomena (accent on the final mora), progressive accent (on the first or only mora of the syllable which contains the pre-final mora) and regressive accent (on the second or only mora of the preceding syllable). This corresponds precisely to the formula  $P_n = 3 \cdot 2^n$  (where  $2^n$  represents the sum of possible quantity structures in an  $n$ -syllabic word).

In the Aeolian dialect of Ancient Greek only one out of those three possibilities was utilized, that of the regressive accent. This gives again

$$(4) \quad P_n = 2^n,$$

a formula effective with all words regardless of their length in syllables. Note that the similarity between the Aeolian and Latin prosodic systems is reflected in identical formulas.

The Doric accentuation (in Thumb's interpretation, quoted by Jakobson with a certain reservation, since "the testimonies of the sources, at times, contradict each other") contained two possible accent types: on the final mora, or on the pre-final one. This gives

$$(7) \quad P_n = 2 \cdot 2^n = 2^{n+1}$$

covering words with  $n \geq 2$ , whereas monosyllabic words, with three prosodic possibilities, require a separate treatment.

would provide 28 possibilities in trisyllabic words, i.e., the 24 actually existing ones plus the types  $\circ^{\neg}\circ\circ$ ,  $\circ^{\neg}\circ:\circ$ ,  $\circ:\circ\circ$ , and  $\circ:\circ:\circ$  which are excluded by the incompatibility rule. Of course, the analysis of linguistic patterns of this kind must not separate quantity from accentuation; it is justified to treat them together as "prosodic phenomena."

In Standard Lithuanian, too, quantity choices are independent in each syllable ( $P'_n = 2^n$ ), but the place of accent is free ( $P'' = n$ ), which gives

$$(8) \quad P_n = n \cdot 2^n.$$

However, in long accented syllable nuclei we also find (except in the open ultima) an opposition between two "intonations," which means between the accent on the first and that on the second mora. In words with a long accent (and a closed ultima) this doubles the number of possibilities. Instead of being  $\frac{n \cdot 2^n}{2}$ , this number is  $n \cdot 2^n$ . Since words with a short accent still have  $\frac{n \cdot 2^n}{2}$  types, we get a total of  $P_n = \frac{3}{2} n \cdot 2^n$ , or

$$(9) \quad P_n = 3n \cdot 2^{n-1}$$

This provides:

- a) 3 types in monosyllabic words:  
 $\circ^{\neg}$ ,  $\circ^{\neg}$ ,  $\circ:\neg$
- b) 12 types in disyllabic words:  
 $\circ^{\neg}\circ$ ,  $\circ^{\neg}\circ:$ ,  $\circ^{\neg}:\circ$ ,  $\circ^{\neg}:\circ:$ ,  $\circ:\circ^{\neg}$ ,  $\circ:\circ:$ ,  
 $\circ\circ^{\neg}$ ,  $\circ:\circ^{\neg}$ ,  $\circ\circ:$ ,  $\circ:\circ:$ ,  $\circ\circ^{\neg}$ ,  $\circ:\circ:$
- c) 36 types in trisyllabic words:  
 $\circ^{\neg}\circ\circ$ ,  $\circ^{\neg}\circ:\circ$ ,  $\circ^{\neg}\circ\circ:$ ,  $\circ^{\neg}\circ:\circ:$ ,  
 $\circ^{\neg}:\circ\circ$ ,  $\circ^{\neg}:\circ:\circ$ ,  $\circ^{\neg}:\circ\circ:$ ,  $\circ^{\neg}:\circ:\circ:$ ,  
 $\circ:\circ^{\neg}\circ$ ,  $\circ:\circ^{\neg}:\circ$ ,  $\circ:\circ^{\neg}\circ:$ ,  $\circ:\circ^{\neg}:\circ:$ ,  
 $\circ:\circ^{\neg}\circ\circ$ ,  $\circ:\circ^{\neg}\circ:\circ$ ,  $\circ:\circ^{\neg}\circ\circ:$ ,  $\circ:\circ^{\neg}\circ:\circ:$ ,  
 $\circ\circ^{\neg}\circ$ ,  $\circ\circ^{\neg}:\circ$ ,  $\circ\circ^{\neg}\circ:$ ,  $\circ\circ^{\neg}:\circ:$ ,  
 $\circ\circ:\circ^{\neg}$ ,  $\circ\circ:\circ^{\neg}:\circ$ ,  $\circ\circ:\circ^{\neg}\circ$ ,  $\circ\circ:\circ^{\neg}\circ:$ ,  
 $\circ\circ\circ^{\neg}$ ,  $\circ\circ\circ^{\neg}:$ ,  $\circ\circ\circ:$ ,  $\circ\circ\circ:$ ,  
 $\circ\circ\circ^{\neg}$ ,  $\circ\circ\circ^{\neg}:$ ,  $\circ\circ\circ:$ ,  $\circ\circ\circ:$

In words with an open ultima we have to subtract  $2^{n-1}$  possibilities (for the non-existing types with a long falling accent on the ultima, such as  $\circ^{\neg}$ ,  $\circ\circ^{\neg}$ ,  $\circ:\circ^{\neg}$ ,  $\circ\circ\circ^{\neg}$ ,  $\circ:\circ\circ^{\neg}$ ,  $\circ\circ:\circ^{\neg}$ ,  $\circ:\circ:\circ^{\neg}$ , etc.), so that  $P_n = 3n \cdot 2^{n-1} - 2^{n-1}$ , or

$$(10) \quad P_n = (3n - 1)2^{n-1}$$

However, the Lithuanian situation may be interpreted in another manner: the number of prosodic possibilities can be regarded as a function of the number of morae. Using the symbol  $\circ$  for a mora, we get a very simple picture for words with an open ultima:



$\bigcirc^\neg$   
 $\bigcirc^\neg\bigcirc, \bigcirc\bigcirc^\neg$   
 $\bigcirc^\neg\bigcirc\bigcirc, \bigcirc\bigcirc^\neg\bigcirc, \bigcirc\bigcirc\bigcirc^\neg$   
 $\bigcirc^\neg\bigcirc\bigcirc\bigcirc, \bigcirc\bigcirc^\neg\bigcirc\bigcirc, \bigcirc\bigcirc\bigcirc^\neg\bigcirc, \bigcirc\bigcirc\bigcirc\bigcirc^\neg$ , etc., thus

$$(11) \quad P_m = m$$

Formulas based on morae are simpler and more adequate only when the ability of a mora to carry the accent is not conditioned by its position within the syllable or by the position of that syllable in relation to other syllables. In cases such as that of Lithuanian words with an open ultima it would be erroneous to start from morae. A survey of the existing types would provide the formula (11), the same as for words with a closed ultima, because the absence of the types ending in  $\bigcirc^\neg$ : (=falling accent on the ultima) would be masked by the existence of combinations ending in  $\bigcirc^\neg\bigcirc$  where the last two morae belong to different syllables. On the other hand, in cases where the accentuability of a mora depends on its direct relation to a word boundary, the formula based on morae remains adequate. For example, the situation in a dialect with quantity independently variable in each syllable and with all morae accentuable except for the lack of oxytonesis (=accent on the final mora, i.e., a short or a long rising accent on the ultima) can be described by

$$(12) \quad P_m = m - 1.$$

Thus:

$\bigcirc^\neg\bigcirc$   
 $\bigcirc^\neg\bigcirc\bigcirc, \bigcirc\bigcirc^\neg\bigcirc$   
 $\bigcirc^\neg\bigcirc\bigcirc\bigcirc, \bigcirc\bigcirc^\neg\bigcirc\bigcirc, \bigcirc\bigcirc\bigcirc^\neg\bigcirc$ , etc.

In the Japanese dialect of Kameyama City, Mie Prefecture<sup>9</sup>

$$(13) \quad P_m = 2m - 1;$$

thus:

$\neg\bigcirc\bigcirc\bigcirc, \neg\bigcirc\bigcirc\bigcirc, \neg\bigcirc\bigcirc\bigcirc^\neg, \neg\bigcirc\bigcirc^\neg\bigcirc, \neg\bigcirc^\neg\bigcirc\bigcirc$  (5 types in three-mora words),  
 $\neg\bigcirc\bigcirc\bigcirc\bigcirc, \neg\bigcirc\bigcirc\bigcirc\bigcirc, \neg\bigcirc\bigcirc\bigcirc\bigcirc^\neg, \neg\bigcirc\bigcirc\bigcirc^\neg\bigcirc, \neg\bigcirc\bigcirc\bigcirc^\neg\bigcirc, \neg\bigcirc\bigcirc^\neg\bigcirc\bigcirc, \neg\bigcirc\bigcirc^\neg\bigcirc^\neg\bigcirc$  (7 types in four-mora words).

However, in two-mora words, which have to be treated separately, we find 4 types ( $\neg\bigcirc\bigcirc, \neg\bigcirc\bigcirc, \neg\bigcirc\bigcirc^\neg, \neg\bigcirc^\neg\bigcirc$ ), i.e.,  $P_m = 2m$ . All this concerns underlying forms of words, in a morphophonemic notation.

<sup>9</sup> Shirô Hattori, *op. cit.* 2-6. All formulas concerning Japanese dialects given in the present paper are tentative, based on concise data furnished in Professor Hattori's works for other purposes, so that they do not always contain all the information necessary for developing definitive formulas. These provisional formulas were propounded here in order to attract the attention of specialists in Japanese to the typologically relevant tasks of making comparative studies of the range of prosodic possibilities in various Japanese dialects and of comparing Japanese facts with those in other languages.

The Okinawan dialect of Naha<sup>10</sup> has a prosodic pattern simpler than that of Kameyama City. The accent cannot fall on the last mora, and the distinction between low and high preaccentual tone does not appear unless the accent is at least on the fourth mora from the beginning of the word. There are 3 possible types in three-mora words, 4 in four-mora words, and 6 in five-mora words. This situation can be described by the formula:

$$(14) \quad P_m = 2 + 2^{m-3}$$

However, the two-mora words with three possible types must be treated as a separate case.

The possibility of describing the same realities by formulas in terms of morae or in terms of syllables poses the problem of the commensurability of those formulas. Of course, the number of possibilities is much lower in formulas operating only with morae than in those which also take into account the various ways of combining morae into syllables. The number of these ways is given by Fibonacci's sequence<sup>11</sup>

$$(15) \quad f(m) = \frac{5 - \sqrt{5}}{10} \left( \frac{1 - \sqrt{5}}{2} \right)^m + \frac{5 + \sqrt{5}}{10} \left( \frac{1 + \sqrt{5}}{2} \right)^m$$

which yields 1 for  $m=1$ , 2 for  $m=2$ , 3 for  $m=3$ , 5 for  $m=4$ , 8 for  $m=5$ , 13 for  $m=6$ , 21 for  $m=7$ , etc. The multiplication of these numbers by numbers of possibilities given by formulas in terms of morae ( $P_m$ ) gives the total number of possibilities in  $m$ -morae words. Thus, if  $P_m=m$ , in three-mora words we shall have 9 possibilities ( $=3 \cdot 3$ ), in four-mora words 20 ( $=5 \cdot 4$ ), in five-mora words 40 ( $=8 \cdot 5$ ), etc. However, these numbers always embrace word types containing unequal numbers of syllables. For example, among the 20 word types of four morae, 4 are disyllabic words, 12 trisyllabic words, and 4 tetrasyllabic words. Likewise, a word with a given number of syllables may contain different numbers of morae, depending on the share of short and long syllable nuclei. Therefore it is necessary to develop another formula for the conversion of mora-based formulas into syllable-based ones:

$$(17) \quad P_n = P_m \cdot 2^n$$

with the condition<sup>12</sup> that  $m : n :: 3 : 2$ . This way formula (11)  $P_m=m$  becomes (9)  $P_n = 3n \cdot 2^{n-1}$ .

The conversion in the opposite direction is given by

<sup>10</sup> Shirô Hattori, "A Glottochronological Study of Three Okinawan Dialects," *International Journal of American Linguistics*, 27, 1961, No. 1, p. 53.

<sup>11</sup> The sequence (15) gives the number of ways in which an  $m$ -member string can be divided into one-member or two-member units. It is derived from the recurrent formula

(16)  $f(m) = f(m-1) + f(m-2)$

assuming that  $f(1)=1$ , and  $f(2)=2$ .

<sup>12</sup> This condition reflects the fact that  $\frac{3}{2}$  is the average number of morae in a syllable (and the harmonic mean of the numbers of types with various numbers of morae in  $n$ -syllabic words).

$$(18) \quad P_m = \frac{P_n}{2^n}.$$

Thus (9)  $P_n = 3n$ ,  $2^{n-1}$  becomes (11)  $P_m = m$ .

The existence of a certain number of prosodic possibilities in a language does not imply that all of them are equally utilized in the morphological pattern. Very often only some of the phonologically possible types are represented in a morphological category. This parallels the limitations in the phonemic composition of morphemes (root structure, occurrence of a restricted range of phonemes in inflectional desinences, etc.). Likewise, prosodic alternations, as well as alternations of segmental phonemes, often embrace only some of the possible relations.

In Russian, where the number of prosodic possibilities in principle equals the number of syllables ( $P_n = n$ ), in Instrumental plural forms of first declension nouns only  $n-1$  types are represented: in disyllabic forms only  $\circ^{\neg}\circ$  (e.g., *dnjámi* '[with] days'), in trisyllabic forms  $\circ^{\neg}\circ\circ$  and  $\circ\circ^{\neg}\circ$  (e.g., *zvúkami* '[with] sounds' and *zubámi* '[with] teeth'), in tetrasyllabic forms  $\circ^{\neg}\circ\circ\circ$ ,  $\circ\circ^{\neg}\circ\circ$ , and  $\circ\circ\circ^{\neg}\circ$ , etc. Analogous relations occur in many other inflectional categories, such as the 2nd person plur. of the present tense (with the *-te* ending), the Nominative sing. fem. of adjectives (ending in *-aja*) and in many other adjectival forms. On the other hand, in certain inflectional forms the accent is obligatorily on a given syllable ( $P_n = 1$ ). Thus the Locative sing. of masculine nouns ending in *-u* and the Nominative plur. of masculine nouns ending in *-a* always have a desinential accent (e.g., *béreg* 'shore, Nom. sing.', but Loc. sing. *beregú*, Nom. plur. *beregá*).

In Lithuanian, nominal case forms are hierarchized as to the number of possible prosodic shapes. In disyllabic Nominative sing. forms of feminine nouns ending in *-ė* five types are admitted:

- $\circ^{\neg}:\circ$  (e.g., *rýkštė* 'birch rod')
- $\circ:\circ^{\neg}$  (e.g., *draūgė* 'female friend')
- $\circ^{\neg}\circ$  (e.g., *mùsė* 'fly')
- $\circ:\circ^{\neg}$  (e.g., *giesmė* 'song')
- $\circ\circ^{\neg}$  (e.g., *skruzdė* 'ant')

Formula (10) provides ten types in disyllabic words, but five of them ( $\circ^{\neg}:\circ$ ,  $\circ:\circ^{\neg}$ ,  $\circ^{\neg}\circ$ ,  $\circ:\circ^{\neg}$ , and  $\circ\circ^{\neg}$ ) are ruled out by the fact that the ending *-ė* of the Nominative sing. is always long. However, in the Dative sing. the range of possibilities is reduced to three:

- $\circ^{\neg}:\circ$  (e.g., *rýkštei*)
- $\circ:\circ^{\neg}$  (e.g., *draūgei*)
- $\circ^{\neg}\circ$  (e.g., *mùsei*)

It is remarkable that such accents also appear in the Dative sing. of nouns with a final accent in the Nominative sing.: *giesmei*, *žvaigždei* (Nom. sing. *žvaigždė* 'star'), *skruzdei*. Here the opposition between final and initial accentuation is neutralized. However, the phenomenon of neutralization is also present in the Nom. sing. Where-

as in the Dative sing. the forms *giesmei* and *žvaigždēi* differ in accent, their accents in the Nom. sing. are identical: *giesmē, žvaigždē*.

Instrumental sing. forms again show three types, but in a different combination:

- <sup>┐</sup>:○ (e.g., *rýkšte, giesme*)
- :○<sup>┐</sup> (e.g., *draugē, žvaigždē*)
- <sup>┐</sup> (e.g., *musē, skruzdē*)

It is obvious that the morphological characteristics of every declension case in Lithuanian embrace, in addition to the desinence, a specific set of prosodic possibilities. It is possible to classify Lithuanian cases according to their behavior in this connection. The ranges of prosodic possibilities in a given case often vary from one declensional class to another, which again parallels the variation of the desinences.

In the so-called classical variety of Modern Standard Serbocroatian, where

$$(19) \quad P_n = 3.2^n - 4,$$

four prosodic types occur in the Genitive sing. of masculine nouns of the first declension:

- <sup>┐</sup>○ (e.g., *brāta*<sup>13</sup> 'brother')
- <sup>┐</sup>:○ (e.g., *sīna* 'son')
- <sup>┐</sup> (e.g., *pōpa* 'priest')
- :○<sup>┐</sup> (e.g., *strīca* 'uncle')

Again, this is only half of the number of possibilities provided by the general formula (19). The shortness of the desinential vowel *-a* in the Genitive sing. rules out the four types with a long ultima.

Most other disyllabic case forms of the same nouns agree with the Genitive sing. as to the range of prosodic possibilities. However, in the Vocative sing. only two types occur:

- <sup>┐</sup>○ (e.g., *brāte, pōpe*)
- <sup>┐</sup>:○ (e.g., *sīne, strīče*)

Likewise, the four possible types in the Nominative sing. (and most other cases) of

<sup>13</sup> In Standard Serbocroatian two prosodic elements are phonologically distinctive: quantity and the place of the last high pitch in the word. This place can be on any syllable (in long syllable nuclei it is always on the first mora, which especially reminds one of certain phenomena in Japanese). Information about the quantity of vowels and about the place of the last high pitch suffices for predicting the prosodic characteristics of all the syllables of a word. Therefore Serbocroatian accents can be adequately marked by using the Japanese sign <sup>┐</sup> to denote "the last high pitch in the word." The traditional signs for Serbocroatian accents are synthetic, like those for Lithuanian and, partly, for Ancient Greek accents. They simultaneously mark quantity and "kind" of accent ("falling" vs. "rising"). The term "falling accent" applies to cases where the last high pitch appears in the first mora, and a "rising accent" is marked on the vowel in the syllable immediately preceding the syllable with the last high pitch. Thus the word *pōpa*=*pōpa*<sup>┐</sup> is considered to have a "short rising" accent on /o/. This practice reflects the fact that the syllable nucleus traditionally marked by the accent sign is lengthened, so that an "accent" with a culminative function is perceived on that syllable nucleus. However, in our morphophonemic discussion, the term "accented" will refer to the syllable nucleus with the last high pitch in the word, in conformity with the practice usual in the most recent morphophonemic work on Serbocroatian (Stankiewicz, Browne and McCawley, Garde).

second declension nouns (*bāba* 'grandmother' *žēna* 'woman,' *lāda* 'ship,' *vīla* 'fairy') are reduced in the Vocative sing. to two types (*bābo* = *žēno*, *lādo* = *vīlo*). Another neutralization takes place in the Genitive plur.: *bābā* = *lādā* (○<sup>1</sup>:○:) and *žēnā* = *vīlā* (○:○<sup>1</sup>:). In the Vocative sing. only initially accented types with a short second syllable nucleus are admitted, and in the Genitive plur. only types with both syllable nuclei long.

Trisyllabic Nominative sing. forms of second declension nouns embrace ten types:

$$\begin{array}{l} \text{○}^1\text{○○}, \text{○}^1\text{○:○}, \text{○}^1\text{:○○}, \text{○}^1\text{:○:○} \\ \text{○○}^1\text{○}, \text{○○}^1\text{:○}, \text{○:○}^1\text{○}, \text{○:○}^1\text{:○} \\ \text{○○○}^1, \text{○○:○}^1 \end{array}$$

(cf., *ūteha* 'consolation,' *bṛdānka* 'highlander woman,' *cṛkvica* 'little church,' *Vāljēvka* 'woman from the town Valjevo,' *bātina* 'stick,' *pēčūrka* 'mushroom,' *várnica* 'spark,' *Jádrānka* 'woman from the region Jadar,' *brzina* 'speed,' *tetiva* 'bow-string').

This is again only half of the existing phonological possibilities. Types with a long ultima are incompatible with the shortness of the desinence vowel. Thus the formula for this situation has to be derived from (19) by dividing all numbers by 2:

$$(20) \quad P_n = 3 \cdot 2^{n-1} - 2.$$

However, in the Vocative sing. there will be only eight possibilities, since neutralization takes place in two instances: *ūteho* = *bṛzino* and *tētivo* = *bṛdānko*. Likewise, two different types of neutralization reduce the number of possibilities in the Genitive plur. to eight: *ūtēhā* = *bātīnā* and *brzinā* = *tetivā*. Thus the number of types of disyllabic and trisyllabic words in the Voc. sing. and in the Gen. plur. equals the number in the Nom. sing. given by formula (20) minus two:

$$(21) \quad P_n = 3(2^{n-1}) - 4.$$

The conclusion is obvious: here too, as well as in the Lithuanian declension patterns, the range of prosodic possibilities belongs to the morphological characteristics of particular cases in the paradigm. The same applies to Serbocroatian conjugation; e.g., the number of types admitted is usually higher in thematic infinitives than in the present tense forms of the same verbs. In the *a*-conjugation the following types occur:

Infinitives	2nd pers. plur. forms
○ <sup>1</sup> ○○ <i>glēdati</i> 'look'	○ <sup>1</sup> ○:○ <i>glēdāte</i>
○ <sup>1</sup> :○○ <i>prāvdati</i> 'justify'	○ <sup>1</sup> :○:○ <i>prāvdāte</i> = <i>pītāte</i>
○○ <sup>1</sup> ○ <i>čitati</i> 'read'	○○:○ <sup>1</sup> <i>čitāte</i>
○:○ <sup>1</sup> ○ <i>pītati</i> 'ask'	(=three types)
(=four types in trisyllabic forms)	
○ <sup>1</sup> ○○○ <i>ūžinati</i> 'take a light meal'	○ <sup>1</sup> ○○:○ <i>ūžināte</i>
○○ <sup>1</sup> ○○ <i>vēčerati</i> 'eat dinner'	○○ <sup>1</sup> ○:○ <i>vēčerāte</i>
○○ <sup>1</sup> :○○ <i>čēpūrkatī</i> 'babble'	○○ <sup>1</sup> :○:○ <i>čēpūrkāte</i> = <i>vēnčāvāte</i>
○:○ <sup>1</sup> ○○ <i>āminati</i> 'say "amen"'	○:○ <sup>1</sup> ○:○ <i>āmināte</i>

○○○<sup>1</sup>○ *orùžati* 'arm'○○○:○<sup>1</sup> *oružáte*○○:○<sup>1</sup>○ *venčávati* 'marry'

(=five types)

(=six types in tetrasyllabic words)

This situation is described by (22) for infinitive forms, and by (23) for 2nd pers. plur. pres. forms.

$$(22) \quad P_n = 2(n-1).$$

$$(23) \quad P_n = 2(n-1) - 1 = 2n - 3.$$

Another hierarchy reflected in the number of prosodic possibilities is that of inflectional classes. In Russian, infinitive forms in the majority of the productive conjugation patterns can be accented on any syllable ( $P_n = n$ ), thus the whole range of phonologically admitted possibilities is covered. Cf. sets of examples such as *zàvtrakat* 'breakfast,' *obédát* 'lunch,' *golodát* 'starve,' or *gdérničat* 'play a fool,' *razbójničat* 'plunder,' *domovničat* 'stay at home and look after the house,' *otoždestvljât* 'identify,' or *plésnevet* 'grow mouldy,' *plešívét* 'get bald,' *zdorovét* 'become strong,' or *lákomit* 'feed with dainty food,' *gotóvit* 'prepare,' *tormozít* 'brake.' But with the verbs in *ova/uje* ('the third productive class,' according to the terminology of the Soviet Academy Grammar<sup>14</sup>) the number of accentual types is  $n-1$ . Examples such as *žértvovat* 'sacrifice' or *volnovát* 'agitate' do exist, but there is no type in *-óvat* (○○<sup>1</sup>○). Likewise, among tetrasyllabic infinitives we find *gdérstvovat* 'play a fool,' *skal'pírovat* 'scalp,' and also *publikovát* 'publish,' but no type ○○○<sup>1</sup>○. The impossibility of a penultimate accent belongs to the features of the suffix *-ovat*.

In Serbocroatian each conjugation class has a different range of prosodic types. The facts concerning the thematic infinitives are presented in the table<sup>15</sup> on the following page:

Two hierarchies are apparent in the table: that of conjugational classes, and that of prosodic types, some of them being widespread, and some of them occurring only with one or two paradigmatic classes.

The conjugational classes with the least prosodic types embrace semantically restricted groups of verbs. The verbs in *iva/uje* are all derived, as a rule from other verbs, and with the meaning feature of imperfectivization. Verbs in *e* denote mental processes, with the exception of one, *-speti*, which means overcoming of time, distance or some

<sup>14</sup> *Grammatika russkogo jazyka*, Tom I, Moscow, 1953, pp. 544-547.

<sup>15</sup> The existence of a type is shown in the table by a plus sign, and the non-existence by a minus sign. A zero is used instead of a minus sign in cases where the number of syllables in the suffix precludes the occurrence of the given type with the given suffix. Brackets [ ] indicate that a type occurs only with an added prefix, and parentheses ( ) that it occurs only in forms containing a prefix.

The types shown in the table can be illustrated by the following examples:

*snùti*, *znàti*, *slàti*, [*ù-gnuti*], *vrèti*, *spàti*, *smèti*; *gàziti*, *glèdati*, *gřtati*, *g ĩnuti*, *vìdeti*; *pàmtiti*, *štàmpati*; *nòsiti*, *igrati*, *iskati*, *tònuti*, *žèleti*, *štòvati*, *bèžati*, *ùmeti*; *bràniti*, *pítati*, *písati*, *třnuti*, *živetì*, *blèjati*; *bàrtimiti*, *ùžinati*, *vèrovati*; *pàbìrèiti*; *dũndoriti*, *přàznovati*; *bèsediti*, *vèčèrati*, *gàmizati*, *gòdraknuti*, (*ùvi-deti*); *pàrložitì*, *àminati*, *kàkotati*, (*závideti*), (*nàstojati*); *dèvjòčiti*, *čèpũrkati*; *govòriti*, *oràžati*, *blebètati*, *jàdknuti*, *zelèneti*, *kupòvati*, (*postòjati*), (*razũmeti*); *jèdnàčiti*, *venčàvati*, *gonètati*, *grgũtnuti*, (*dožĩveti*), (*zajèčati*), *kazivati*.

PROSODIC TYPE	CONJUGATION CLASS									DIFFUSION of the type
	i	a	a/e	nu/ne	e/i	ova/uje	a/i	e	iva/uje	
○ <sup>1</sup> ○	+	+	+	[+]	+	○	+	+	○	6+[1]
Total disyll. types	1	1	1	[1]	1	—	1	1	—	
○ <sup>1</sup> ○○	+	+	+	+	+	—	—	—	—	5
○ <sup>1</sup> :○○	+	+	—	—	—	—	—	—	—	2
○○ <sup>1</sup> ○	+	+	+	+	+	+	+	+	—	8
○:○ <sup>1</sup> ○	+	+	+	+	+	—	+	—	—	6
Total trisyll. types	4	4	3	3	3	1	2	1	0	
○ <sup>1</sup> ○○○	+	+	—	—	—	+	—	—	—	3
○ <sup>1</sup> ○:○○	+	—	—	—	—	—	—	—	—	1
○ <sup>1</sup> :○○○	+	—	—	—	—	+	—	—	—	2
○○ <sup>1</sup> ○○	+	+	+	+	(+)	—	—	—	—	4+(1)
○:○ <sup>1</sup> ○○	+	+	+	—	(+)	—	(+)	—	—	3+(2)
○○ <sup>1</sup> :○○	+	+	—	—	—	—	—	—	—	2
○○○ <sup>1</sup> ○	+	+	+	+	+	+	(+)	(+)	—	6+(2)
○○:○ <sup>1</sup> ○	+	+	+	+	(+)	—	(+)	—	+	5+(2)
Total tetra-syll. types	8	6	4	3	1+(3)	3	0+(3)	0+(1)	1	
Grand total	13	11	8	6+[1]	5+(3)	4	3+(3)	2+(1)	1	

obstacle, being, again, an abstract process, not a physical action. Verbs in *a/i* are almost all intransitive, most of them denote some state or position of the body, or the production of a sound. On the other hand, each of the conjugation classes with a high number of prosodic types includes verbs with a very wide range of meanings and with various derivational backgrounds. Many of them are primary (underived) verbs. Thus the width of the prosodic field of a conjugation class reflects in general lines the width of its semantic field.

As to the hierarchy of prosodic types, a preponderance of penultimate accents (=on the thematic vowel) is noticeable. This is a feature of the infinitive (and of certain other paradigmatic forms agreeing with the infinitive in accent). In a set of other paradigm members, e.g., in the present tense, accents on the thematic vowel are much less common.

In most Russian declension classes, case forms with monosyllabic endings, such as the Genitive, can be accented on any syllable ( $P_n = n$ ):

*zvúka* 'sound,' *volá* 'ox'; *génija* 'genius,' *gerója* 'hero,' *rybaká* 'fisher'; *tétere* 'heath-cock,' *učítelja* 'teacher,' *inženéra* 'engineer,' *bol'sheviká* 'Bolshevik';

*méstá* 'place,' *selá* 'village'; *jábloka* 'apple,' *bolóta* 'bog,' *veščestvá* 'matter'; *žúlničestva*

'fraudulency,' *stremління* 'striving,' *poloténca* 'towel,' *xuligan'já* 'hooliganism';  
*ryby* 'fish,' *gorý* 'mountain'; *jágody* 'berry,' *refórmy* 'reform,' *vysotý* 'height'; *viselicy*  
 'gallows,' *krasávicy* 'beauty,' *mastericy* 'milliner,' *skovorodý* 'frying-pan.'

However, in nouns of the third declension the Genitive sing. desinence (and several others) cannot be stressed ( $P_n = n - 1$ ):

*súti*<sup>16</sup> 'essence';

*óseni* 'autumn,' *pečáti* 'press';

*zápovedi* 'commandment,' *obíteli* 'abode,' *kolybéli* 'cradle.'

Genitive sing. form of Serbocroatian nouns in most declensional classes have a range of  $3(2^{n-1}) - 2$  possibilities as given by formula (20). This provides 1 possibility in monosyllabic forms, 4 in disyllabic forms, 10 in trisyllabic forms. But, again, the third declension is characterized by a more restricted inventory of types: no monosyllabic forms, two disyllabic types ( $\bigcirc^\top\bigcirc$  and  $\bigcirc^\top:\bigcirc$ , e.g., *sòli* 'salt' and *māsti* 'grease'), and four trisyllabic ones ( $\bigcirc^\top\bigcirc\bigcirc$ ,  $\bigcirc^\top\bigcirc:\bigcirc$ ,  $\bigcirc\bigcirc^\top\bigcirc$  and  $\bigcirc:\bigcirc^\top\bigcirc$ , e.g., *bōlesti* 'illness,' *vřlěti* 'crag,' *sāmrti* 'agonies of death,' and *ljúbavi* 'love'). Thus

$$(22) \quad P_n = 2(n - 1).$$

As in Russian, forms with a desinential accent are impossible in this declension. This is again a limitation with a twofold bearing: the third declension is inferior to other declensional classes in its richness of prosodic types, and the desinential accent has a more limited distribution than other accentual possibilities.

It is noteworthy that the third declension is subject to a number of other limitations too. Nouns belonging to that declension usually fall within a fairly limited semantic range (as a rule they are abstract nouns or mass nouns or collective formations; only rarely do they denote objects or beings). In contradistinction to the first and the second declension, the third declension is unproductive, except with the suffix *-ost* serving to derive abstract nouns from adjectives. Finally, the number of different desinenes in the paradigm is the lowest in this declension because of the numerous syncretisms. The total number of endings in the third declension (for the seven cases in sing. and plur.) does not exceed five (*-φ*, *-i*, *-ju*, *-i*, and *-ima*), whereas in other declensions there are usually eight different desinenes in a paradigm (e.g., with masculine nouns of the first declension: *-φ*, *-a*, *-u*, *-e*, *-om*, *-i*, *-ā*, and *-ima*).

As to the desinential accent, its relation to other accentual types is very different from the position of the third declension among declensional classes. It is one of the two accentual types alternating in the cardinal alternation: initial and desinential accent. The Genitive sing., the accentuation of which was discussed above, belongs to the cases with an initial accent.

It is possible to extend the comparison between different paradigms to the relations

<sup>16</sup> Exceptionally, disyllabic Genitive sing. forms of a few nouns can carry a desinential stress: *gluši* 'remote corner,' *Permi* 'town Perm,' *osi* 'axis' (*Grammatika russkogo jazyka* of the Soviet Academy of Sciences, I, Moscow, 1953, 207).



between different parts of speech. In Serbocroatian, the Genitive sing. forms of indefinite adjectives, with the same desinences as corresponding noun forms, show a lesser variety of prosodic types:

1 type in monosyllabic forms ( $\circ^{\circ}$ , e.g., *zla* 'bad');

3 types in disyllabic forms ( $\circ^{\circ}\circ$ ,  $\circ\circ^{\circ}$ ,  $\circ:\circ^{\circ}$ , e.g., *zdrava* 'healthy,' *bosa* 'bare-foot,' *blaga* 'mild');

7 types in trisyllabic forms ( $\circ^{\circ}\circ\circ$ ,  $\circ^{\circ}\circ:\circ$ ,  $\circ^{\circ}:\circ\circ$ ,  $\circ\circ^{\circ}\circ$ ,  $\circ:\circ^{\circ}\circ$ ,  $\circ\circ\circ^{\circ}$ ,  $\circ\circ:\circ^{\circ}$ , e.g., *gđava* 'sooty,' *křvava* 'bloody,' *majčina* 'mother's,' *gđova* 'ready,' *blazena* 'blessed,' *zelena* 'green,' *valjana* 'worthy').

The types  $\circ^{\circ}:\circ$ ,  $\circ^{\circ}:\circ:\circ$ ,  $\circ\circ^{\circ}$ , and  $\circ:\circ^{\circ}:\circ$  do not occur with indefinite adjectives, although they are common with nouns. The definite adjectives embrace 1 monosyllabic type ( $\circ^{\circ}$ ), 4 disyllabic ones ( $\circ^{\circ}\circ$ ,  $\circ^{\circ}:\circ$ ,  $\circ\circ^{\circ}$ ,  $\circ:\circ^{\circ}$ ), and 8 trisyllabic ones ( $\circ^{\circ}\circ\circ$ ,  $\circ^{\circ}\circ:\circ$ ,  $\circ^{\circ}:\circ\circ$ ,  $\circ^{\circ}:\circ:\circ$ ,  $\circ\circ^{\circ}\circ$ ,  $\circ:\circ^{\circ}\circ$ ,  $\circ\circ^{\circ}:\circ$ ,  $\circ\circ\circ^{\circ}$ )<sup>17</sup>—still less than first and second declension nouns (cf. formula 20). The comparatives have a uniform predesinential accent ( $P_n=1$ ). Cf. *bđlji* 'better,' *nđviji* 'newer,' *radđsniji* 'more joyful,' *prijatđljskiji* 'friendlier,' *komplikovđniji* 'more complicated,' etc. ( $\circ^{\circ}\circ$ ,  $\circ\circ^{\circ}\circ$ ,  $\circ\circ\circ^{\circ}\circ$ ,  $\circ\circ\circ\circ^{\circ}\circ$ ,  $\circ\circ\circ\circ\circ^{\circ}\circ$ ). This neutralization of the contrasts between all existing prosodic paradigms of adjectives is a formal expression of the semantic markedness of the comparative.

So far we have discussed relations of hierarchy, or at least differences in behavior, among various paradigm members, various paradigm classes (including those of different parts of speech), and various accentual types. Similar relations can also exist among morphemes or syllables within a word (or prosodeme). In many languages there is a distinction between prosodically active and prosodically inactive morphemes (or syllables within morphs). The number of prosodic types occurring in the Russian Instrumental plur. forms with the desinence *-ami* is  $n-1$ , whereas in forms with monosyllabic desinences belonging to the same paradigms, the number of possibilities equals the number of syllables. The absolute number of possibilities is, of course, the same in both cases, since the forms in *-ami* are one syllable longer. This means that the added syllable in *-ami* is prosodically inactive: the accent never falls on it, so that its presence fails to broaden the scope of prosodic possibilities. The same property is shared by the second syllable of disyllabic desinences of the Russian adjectival declension. They are not accentuable and do not influence the number of prosodic possibilities. In Russian present tense verbal forms the number of prosodic types is identical when they have the non-syllabic endings (*-š*, *-t*, *-m*) or the (mono)syllabic ending *-te*.

In Serbocroatian, too, the first syllable of disyllabic desinences in the nominal and

<sup>17</sup> The types  $\circ:\circ^{\circ}$ ,  $\circ^{\circ}:\circ:\circ$  and,  $\circ\circ\circ^{\circ}$  occur exclusively with adjectives appearing only in the definite form, e.g., *vrđmi* 'door-', *pđtniđki* 'travellers', *ždrebđđi* 'foal-'. Note that some sources of the Classical Serbocroatian norm, among them the dictionaries of Vuk Karadžić and of the Yugoslav Academy of Sciences, practically deny the existence of the type  $\circ^{\circ}:\circ:\circ$ , giving forms such as *pđtniđki* instead of *pđtniđki*.

adjectival declensions is prosodically active, and the second syllable inactive. In the present tense the syllabic endings *-mo* and *-te* (in the first and second persons plural) do not yield an increased number of prosodic types in comparison with the forms ending in *-m*, *-š*, and *-φ*. However, in one of the two principal varieties of Standard Serbocroatian, the endings *-mo* and *-te* are accentuable; cf. *pěčēm* 'I bake'  $\bigcirc\bigcirc^\neg$ : and *pěčēmo* 'we bake,' *pěčēte* 'you [pl.] bake'  $\bigcirc\bigcirc:\bigcirc^\neg$ . On the other hand, the type  $\bigcirc\bigcirc^\neg:\bigcirc$  does not occur with those endings. In fact, it is the medial syllable which is inaccentuable in present tense forms with the quantity pattern  $\bigcirc\bigcirc:\bigcirc$ .

In Lithuanian, nominal endings such as *-je* in the Locative sing., *-mis* in the Instrumental plur. and *-se* in the Locative plur. are accentuable, but the preceding (stem-final) syllable is not, although in other forms (with non-syllabic endings) that syllable can carry the accent. Obviously, the accentuability of an added syllable does not always entail its prosodic activity.

Proclitics and enclitics belong in principle to prosodically inactive morphemes. However, in some languages a possible accent shift in certain types of syntagms makes certain proclitics and/or enclitics prosodically active. Cf. Russian *ná-bereg* 'to the shore,' but *na-kámen* 'to the stone,' and of course *na-vostók* 'to the East' (the corresponding forms without a preposition are *béreg*, *kámen*, and *vostók*). Three prosodic possibilities in prepositional syntagms represent an increase in comparison with the two possible types ( $\bigcirc^\neg\bigcirc$  and  $\bigcirc\bigcirc^\neg$ ) in forms without a preposition.

A similar situation exists in Serbocroatian. The Accusative sing. forms *vòdu* 'water,' *kūću* 'house' (both  $\bigcirc^\neg\bigcirc$ ) become *nā-vodu* ( $\bigcirc^\neg\bigcirc\bigcirc$ ), but *nā-kuću* ( $\bigcirc\bigcirc^\neg\bigcirc$ ) in syntagms with the preposition *na* 'to, onto.' Many other proclitics behave the same way, but there are also inaccentuable and prosodically inactive proclitics, such as the conjunction *a*. As to Serbocroatian enclitics, they always remain prosodically inactive. In disyllabic plural forms of past participles three prosodic types occur, illustrated by the examples *šīli* 'sewn' ( $\bigcirc^\neg\bigcirc\bigcirc$ ), *pēkli* 'baked' ( $\bigcirc\bigcirc^\neg\bigcirc$ ), and *dāli* 'given' ( $\bigcirc:\bigcirc^\neg\bigcirc$ ). This range of possibilities remains unchanged when the accentual word also embraces an enclitic, or even a series of enclitics. Thus the types  $\bigcirc^\neg\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc$  (e.g., *šīli-bismo-ti-ga* 'we would sew it for you'),  $\bigcirc\bigcirc^\neg\bigcirc\bigcirc\bigcirc\bigcirc$  (*pēkli-bismo-ti-ga* 'we would bake it for you'), and  $\bigcirc:\bigcirc^\neg\bigcirc\bigcirc\bigcirc\bigcirc$  (*dāli-bismo-ti-ga* 'we would give it to you') exhaust the inventory of possible prosodic shapes of hexasyllabic syntagms consisting of disyllabic past participles and added enclitics, although the theoretical number of phonologically possible types in hexasyllabic words reaches 188, vs. 8 in disyllabic words. On the other hand, the enclitic *-sja* in Russian can be prosodically active. Three possible prosodic solutions in trisyllabic past tense forms with *-sja* (e.g., *pénilsja* 'foamed,' *molīlsja* 'prayed,' *rodīlsjā* 'was born') contrast with two solutions in corresponding forms without *-sja* (*pēnil*, *molīl* = *rodīl*).

There is a transparent relation between the phenomena just described and the distinction between constant or variable prosodic characteristics of morphemes in many languages. The versatility of one part of the morphemes as to prosodic shape con-

tributes to lexical distinctions. In Russian, the Locative sing. desinence *-e* can be stressed or unstressed, which makes possible contrasts such as *zámke* 'castle, Loc. sing.' vs. *zamké* 'lock, Loc. sing.' The consistency of the prosodic behavior of certain other morphemes serves to sharpen the distinction between the given morphological category and other categories. Russian Locative sing. ending *-u* is always stressed; cf. relations such as *beregú* 'shore, Loc. sing.' vs. *béregu* 'shore, Dat. sing.' Of course, the prosodic versatility of a morpheme increases the number of possible prosodic types in the given category, and the constancy of morphemes limits that number. In extreme cases, such as that of the Russian Locatives in *-ú*, having a constant *culminative* characteristic, the number of possibilities is reduced to one.

Prosodic activity differences can accompany other relations in linguistic patterns, serving sometimes as indices of certain hierarchies. In Serbocroatian the infinitive ending *-ti* is consistently unaccented and prosodically inactive with thematic verbs. But the same *-ti* is both accentuable and prosodically active in athematic infinitives: *gr̃ísti* 'bite'  $\bigcirc^{\neg}\bigcirc$ , but *plèsti* 'knit'  $\bigcirc\bigcirc^{\neg}$ . Athematic infinitives show, in general, more prosodic types than thematic infinitives with the same number of syllables. Disyllabic athematic infinitives appear in three different prosodic shapes ( $\bigcirc^{\neg}\bigcirc$ ,  $\bigcirc\bigcirc^{\neg}$ , and  $\bigcirc:\bigcirc^{\neg}$ ), and disyllabic thematic infinitives only in one ( $\bigcirc^{\neg}\bigcirc$ ). Note that verbs with athematic infinitives are as a rule primary, that their meanings usually belong to the basic set of verbal meanings, and that most of them have a high frequency in texts. Likewise, the endings *-oga/-ega*, *-ome/-emu* and *-ima*, which have an always unaccented and inactive ultima with adjectives, become, when used with pronouns, accentuable and prosodically active in the ultima as well as in the penultima. Cf. *t̃đga* 'this, Gen. sing.', but *kòga* 'who, Gen. sing.' ( $\bigcirc^{\neg}\bigcirc$  vs.  $\bigcirc\bigcirc^{\neg}$ ), *t̃ìma* 'to these,' but *svíma* 'to all' ( $\bigcirc^{\neg}\bigcirc$  vs.  $\bigcirc:\bigcirc^{\neg}$ ), etc. This makes the number of prosodic types higher with pronominal than adjectival forms of comparable length.

We can conclude that the study of the range of prosodic possibilities provides new tools for the investigation of the properties and hierarchy of various elements and categories in morphology.

# **SUBLIMINAL VERBAL PATTERNING IN POETRY**

**ROMAN JAKOBSON**

Que le critique d'une part, et que  
le versificateur d'autre part, le  
veuille ou non.

Ferdinand de Saussure

Wherever I discuss the phonological and grammatical texture of poetry, and whatever the language and epoch of the poems examined is, one question constantly arises among readers or listeners: Are the designs disclosed by linguistic analysis intentional and premeditated in the creative work of the poet?

A calculus of probability as well as an accurate comparison of poetic texts with other kinds of verbal messages demonstrates that the striking particularities in the poetic selection, accumulation, juxtaposition, and distribution of diverse phonological and grammatical classes cannot be viewed as negligible accidentals governed by the rule of chance. Any significant poetic composition, whether it is an improvisation or a fruit of long and painstaking labor, implies a goal-oriented choice of verbal material.

In particular, when comparing the extant variants of a poem, one realizes the relevance of the phonemic, morphological, and syntactical framework for the author. What the mainsprings of this network are may and quite frequently does remain outside of his awareness, but even without being able to single out the pertinent contrivances, the poet and his receptive reader nevertheless spontaneously apprehend the artistic advantage of a context endowed with those components over a similar one devoid of them.

The poet is more accustomed to abstracting those verbal patterns and, especially, those rules of versification which he assumes to be compulsory, whereas a facultative, variational device does not lend itself so easily to a separate interpretation and definition. Obviously, a conscious deliberation may occur and assume a beneficial role in poetic creation, as Baudelaire stressed with reference to Edgar Allan Poe. There remains, however, an open question: whether in certain cases intuitive verbal latency does not precede and underlie such a conscious consideration.

Thus Velimir Xlebnikov, the great Russian poet of our century, realized only afterwards that in the first, crucial, four-line sentence of his succinct poem "The Grass-

hopper" certain consonants appear five times without any knowledge or intention of the author, as he himself confessed in a later essay; but even then he failed to consider the wider range of regularly recurrent phonemes. Actually, all the consonants and vowels which belong to the trisyllabic stem of the initial, picturesque neologism *krylyš-kúja* display the same "fivefold structuration," so that this tetrastich comprises 5 /k/, 5 sharp and plain /r/, 5 /i/ in each of the two distichs, 5 /l/, 5 hushing continuants, and 5 /u/:

Krylyškúja zolotopis'móm  
Tončájsix žil,  
Kuzněčik v kúзов púza uložil  
Pribréznyx mnógo tráv i vér.

The chain of quintets embracing almost one half of the phonemes within these four lines can be neither fortuitous nor poetically indifferent. Both the poet, originally unaware of the underlying phonemic machinery, and his responsive readers as well immediately perceived the astonishing integrity of the cited lines.

Folklore provides us with particularly eloquent examples of a very loaded and highly efficient verbal structure which nonetheless remains free from the control of abstract reasoning. Even such compulsory constituents as the number of syllables in a syllabic line, the constant position of the break or the regular distribution of prosodic features are not educated and recognized per se by a carrier of oral tradition. When he is faced with two versions of a line, one of which disregards the metrical standard, this narrator or listener may qualify the deviating variant as less suitable or unacceptable, but he shows no capacity for defining the crux of the given deviation.

A few specimens picked up among the short forms of Russian folklore show us tight figures of sound and grammar in close unity with a definitely subliminal method of patterning.

Šlá svin'já iz Pítera,  
vsjá spiná istýkana.

'A pig was coming from Petersburg,  
[its] back is pierced all over.'

*Napjórstok* 'thimble' is the answer which is required by this folk riddle and prompted by perspicuous semantic cues: this article comes to the country from the industrial metropolis and has a rough, pitted surface like the skin of a pig. Strict phonological symmetry closely connects both heptasyllabic lines: the distribution of word boundaries and stresses is exactly alike (—|—|—|—|—|—); six of the seven successive vowels are identical (/áíáíí.a/); apart from the glide /j/ in /sv'in'já/, the number of consonantal phonemes before each of the seven vowels is equal in both sequences (2 . 2 . 1 . # . 2 . 1 . 1 .) with numerous features shared by the parallel segments (continuants /š/ and /v/, two pairs of /s/, two pairs of voiceless stops: /p'—/t'/ and /t—/k/, sonorants /r/ and /n/). Grammatical correspondences: feminines *šlá—vsjá*; feminine nouns as subjects: *svin'já—spiná*; preposition and prefix *iz*. The initial clusters of the two alliterating subjects are repeated in the other line: /sp'/ in *spiná* and *iz Pítera* and

/sv'—/vs'/ in *svin'já* and *vsjá* with a metathesis of consonants and preservation of the order "plain—sharp" (nonpalatalized—palatalized).

The word of answer is anagrammatized in the text of the riddle. Each hemistich of its second line ends with a syllable similar to the prefix /na-/ of the answer: /sp'iná/ and /istikana/. The root /p'órst/ and the last hemistich of the first line of the riddle /isp'ít'ira/ display an equivalent set of consonants with an inverted order: 1234—3142. The last hemistich of the first line /istikana/ echoes the consonantal sequence contained in the final syllable of the answer /-stak/. Obviously, *Piter* was chosen among other appropriate city names just for its anagrammatic value. Such anagrams are familiar to folk riddles; cf. *čjórnyj kón'* || *prýgaet v ogón'* 'the black horse jumps into fire': all three syllables of the answer *kočergá* 'poker' show up with the due automatic alternations of the stressed varieties /kó/, /čór/, /gá/ and their unstressed counterparts.

The dense phonological and grammatical texture of folk riddles is, in general, quite impressive. Two grammatically and prosodically parallel and riming trisyllables (—|—|—)—*kón' stal'nój*, || *xvóst l'njanój* 'a horse of steel, a tail of flax'—each count three identical vowels /ó a ó/ (at least in that preponderant variety of Russian which preserves the pretonic /a/ in such forms as /l'n'anój/). Both lines begin with a voiceless velar. The interval between the two stressed vowels is filled in each line by five identical consonantal phonemes: /n'st.l'n/ (123. 45)—/stl'n'. n/ (2341. 5). This series is terminated by /n/, while /n'/ in the first line opens the series; but in the second line both /n'/ and /n/ take a prevocalic position. That is the only sequential divergence between the two series. A typical syntactic feature frequent in Russian riddles and proverbs is the lack of verbs, a lack which effaces the difference between attributes and predicates with zero copula.

Another riddle with the same topic and a similar metaphoric contrast of the animal's body and tail displays two pairs of riming disyllables—*Zverók* | *s veršók*, || *a xvóst* | *sem' vjóst* 'A little beast of some two inches and a tail of seven kilometers.' These four colons vary a sequence of /v/ or /v'/ plus /ó/ or its unstressed alternant and a postvocalic /r/ after a prevocalic /v'/; under stress this series is concluded with the cluster /st/, while in an unstressed syllable it begins with a hissing continuant: /zv'er/—/sv'er/—/vóst/—/v'órst/.

All these riddles replace the inanimate noun of the answer word by an animate noun of the opposite gender: masc. *napjóstok* by fem. *svin'já* and, inversely, fem. *iglá* by masc. *kón'* or *zverók*, and fem. *nít'* by masc. *xvóst*, a synecdoche relating to an animate. Cf., e.g., fem. *grúd'* 'breast' represented by *lébed'* 'swan,' an animate of masculine gender, at the beginning of a riddle—*bélyj lébed' na bljúde né byl* 'the white swan was not on a dish'—with a systematic commutation of sharp and plain /b/ and /l/: /b'. l./—/l'. b'. d'/—/n. bl'. d'/—/n'. b. l/.

No propounder or diviner of folk riddles identifies such devices as the presence of all three syllables of the answer in the three initial words of the poker riddle itself (213) or its binary meter with two border stresses in either line of this distich, its three

/ó/ with three subsequent dental nasals (124), and the prevocalic velar stop in each of the three words concluding the entire puzzle (234). But everyone would feel that the substitution of *želéznyj* for *čjórnyj* can only impair the epigrammatic vigor of this poetic locution. A semblance of prosodic symmetries, sound repetitions, and a verbal substratum—*les mots sous les mots* (J. Starobinski's felicitous expression)—transpire without being supported by some speculative insight into the methods of procedure involved.

Proverbs compete with riddles in their verbal skill: *Serebró v bórodu, bás v rebró* 'Silver (metaphor for grey hair which in turn is a metonymy for old age) into the beard, devil (concupiscence) into the rib (an allusion to the biblical connection between Adam's rib and the emerging woman).' The entire adage is a paronomastic chain; cf. the permutations of phonemes in *serebró v—bás v rebró* and the consonance of the two nouns within the first clause: /bró/—/bóro/.

The noted Polish anthropologist K. Moszyński in his *Kultura ludowa Słowian*, II, part 2 (Cracow 1939), p. 1384, admires "the great formal condensation" of the humorous Russian proverb:

<i>Tabák da bájja,</i>	'Tobacco and bathhouse,
<i>kabák da bába—</i>	pub and female—
<i>odná zabáva.</i>	the only fun.'

(If, however, a stronger accent falls on *odná* or *zabáva* rather than there being equal accents on the two words of the final line, the meaning acquired by this line is 'same fun' in the former case, and 'nothing but fun' in the latter).

A rigorous cohesion of the entire tristich is achieved through various means. Its persistently uniform rhythmical pattern, 3 (—|—), comprises fifteen pervasive /a/ alternately unstressed and stressed (notice the South Russian vocalism /adná/!). The onset of the three lines differs from all of their following syllables. The last line begins with a vowel, whereas the other 14 vowels of the tristich are preceded by a consonant. Both anterior lines begin with voiceless consonants which appear to be the only two unvoiced segments among the 32 phonemes of the proverb (note the regular voicing of /k/ before /d/!). The only two continuants of its 17 consonants occur in the unstressed syllables of the terminal, predicative noun. The restricted grammatical inventory of this opus—its confinement to five nouns and one pronoun, all six in the nominative, and one reiterated conjunction—is a telling example of the elaborate syntactic style proper to the proverbs and outlined in P. Glagolevskij's sketch "Sintaksis jazyka russkix poslovic," *Žurnal Min. Nar. Prosv.* (1871), but never investigated since. The central line carries the two culminant nouns—first *kabák*, an intrinsic palindrome, and afterwards *bába*, with its doubled syllable /bá/; *kabák* rimes with the antecedent *tabák*, while *bába* forms an approximate rime with the final *zabáva* and shares its /bá/ with all the nouns of the proverb. Reiterations and slight variations of the other consonants run jointly with the same vowel throughout the entire tristich:

${}_1\text{ta}/-/\text{da}/-{}_2\text{da}/-{}_3\text{ad}/-/\text{za}/$ ,  ${}_1\text{ák}/-{}_2\text{ka}/-/\text{ák}/$ , and  ${}_1\text{n'a}/{}_3\text{ná}/$ .

All these repetitive, permeant features tie the four enumerated delights together and frame the chiasmal disposition of their two pairs: tools of enjoyment, *tabák* and *bába*, juxtaposed with places of amusement, *kabák* and *bánja*. The metonymic character of these nouns, substituted for direct designations of enjoyments, is set off by the contrastive, intralinear neighborhood of locational and instrumental terms which is, moreover, underscored by the dissimilarity of masculine oxytones and feminine paroxytones.

While being distinct from the short sayings in the choice of devices, folk songs in turn reveal a subtle and manifold verbal structure. Two quatrains of a Polish song pertaining to the folklore of the country-seat will serve as an appropriate example:

Ty pójdiesz górą	You will go along the hill
a ja doliną,	and I along the valley,
ty zakwitniesz różą	You will blossom as a rose,
a ja kaliną.	and I as a squashberry bush.

Ty będziesz panią	You will be a lady
we wielkim dworze,	in a great court,
a ja zakonnikiem	and I a monk
w ciemnym klasztorze.	in a dark monastery.

Excluding the third, hexasyllabic line of the quatrain, all the lines count five syllables, and the even lines rime with each other. Every line ends with a noun in a marginal case, instrumental or locative, and these are the only nouns of our text. Three pronouns indicate the second person, and three, the first person. All of them occur in the nominative and appear at the beginning of the lines: *ty* 'you' in the first syllable of odd lines 1-3-5, while *ja* 'I' is preceded regularly by the adversative conjunction *a* and occupies the second syllable of lines 2-4-7. Verbs are found only in the second person singular of the perfective present with a futural meaning; they follow the pronoun *ty*, with which they are indissolubly linked. In addition to 8 nouns (6 in instrumental and 2 in locative), 6 personal pronouns in nominative, 3 verbs, and 3 conjunctions, the text contains two prepositions (*w*, *we* 'in') and two adjective attributes to both locative forms of nouns.

An antithetic parallelism underlies three pairs of clauses: lines 1-2 and 3-4 within the first quatrain and the two couplets within the second quatrain. These three pairs in turn are connected by a close formal and semantic parallelism. All three antitheses confront the higher and brighter prospects for the addressee with the gloomier personal expectations of the addresser and employ the symbolic opposition of the hill and the valley first, then a metaphoric contrast between the rose and the squashberry. In the traditional imagery of Western Slavic folklore *kalina* (whose name goes back to Common Slavic *kalŭ* 'mud') is linked ostensibly to marshy lands; cf. the preambles of a



Polish folk song: "Czego, kalino, v dole stoisz? || Czy ty się letniej suszy boisz?" 'Why do you, squashberry bush, stand in a valley? Are you afraid of the summer drought?' The cognate Moravian song supplies the same motif with abundant sound figures: *Proč, kalino, v struze stojíš? snad se tuze sucha bojíš?* 'Why do you, squashberry bush, stand in a stream? Are you greatly afraid of dryness?' The third antithesis predicts high stature for the addressee and a sombre future for the addresser; at the same time, personal nouns of feminine and masculine gender announce the sex of the two characters. The instrumental, used consistently in opposition to the invariable nominatives *ty* and *ja*, presents all these contrasted nouns as mere contingencies which will separate both ill-fated victims until their posthumous talks about the "disjointed love" (*niezłaczona mītość*) resting in a joint grave.

The three pairs of antithetic clauses with their concluding instrumentals together form a thorough threefold parallelism of broad and complex grammatical constructions, and against the background of their congruent constituents, the significant functional dissimilarity of the three paired instrumentals becomes prominent. In the first couplet the so-called instrumentals of itinerary—*górq* and *doliną*—assume the function of adverbial adjuncts; in the second couplet the instrumentals of comparison—*różq* and *kaliną*—act as accessory predicatives, whereas in the second quatrain the instrumentals *panią* and *zakonnikiem*, in combination with the copula *będiesz* and the elliptically omitted *będę*, form actual predicates. The weightiness of this case gradually increases with its transition from the two levels of metaphoric peregrination through a simile comparing both personae with flowers of unlike quality and altitude to the factual placement of the two heroes on two distant steps of the social scale. However, the instrumental in all these three different applications preserves its constant semantic feature of bare marginality and becomes particularly palpable when contrasted with the adduced contextual variations. The medium through which the actor moves is defined as the instrumental of itinerary; the instrumental of comparison confines the validity of the simile to one single display of the subjects, namely, their blossoming in the context quoted. Finally, the predicative instrumental heeds one single, supposedly temporal aspect assumed by the subject; it anticipates the possibility of a further, though here a mere post-mortem change which will draw the severed lovers together. When the last pair of instrumentals deprives this case of any adverbial connotation, both couplets of the second stanza provide the compound predicate with a new adverbial adjunct, namely, two static locatives of dwelling—*we wielkim dworze* and *w ciemnym klasztorze*—which appear in manifest contradistinction to the dynamic instrumentals of itinerary evoked in the initial couplet.

The close interconnection between the first two of the three parallelisms is marked by the supplementary assonance of lines 1 and 3, faithful to the traditional Polish pattern of partial rimes (*górq*—*różq*), while the last two parallelisms are begun and concluded by corresponding groups of phonemes: *zakwitniesz*—*zakonnikiem* and with a metathesis: *kalina*—*klasztorze* (cf. also the correspondence between the

groups  $\text{ḡ}/\text{kim}/$  and  $\text{ḡ}/\text{imkl}/$ ).

The lines devoted to the dismal destiny of the first person differ patently from their cheerful counterparts. Under word stress the instrumentals carry a back vowel ( $\text{ḡ}_1, \text{ḡ}_3/\text{u}/$ ,  $\text{ḡ}_5/\text{a}/$ ) in the lines concerned with the addressee but show only  $/i/$  in the lines dealing with the apparently disparaged and belittled addresser: *dolinaḡ, kalinaḡ, zakonnikiem*. All four nouns assigned to the maid are disyllabic—*górq, róžq, paniq, dworze* in contrast to the lengthy and bulkier nouns of the autobiographic lines: *dolinaḡ, kalinaḡ, zakonnikiem, klasztorze*. Hence, the second person lines possess and the first person lines lack a break before the penult.

Phonology and grammar of oral poetry offer a system of complex and elaborate correspondences which come into being, take effect, and are handed down through generations without anyone's cognizance of the rules governing this intricate network. The immediate and spontaneous grasp of effects without rational elicitation of the processes by which they are produced is not confined to the oral tradition and its transmitters. Intuition may act as the main or, occasionally, even sole designer of the complicated phonological and grammatical structures in the writings of individual poets. Such structures, particularly powerful on the subliminal level, can function without any assistance of logical reflection and patent apprehension both in the poet's creative work and in its perception by the sensitive reader (*Autorenleser*, according to an apt coinage by Eduard Sievers).

I am particularly pleased to dedicate this study to Shirô Hattori, the scholar with exquisite feeling for language and verbal art who graciously introduced me to the enchanting world of ancient Japanese poetry.

HARVARD UNIVERSITY  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
U. S. A.

# CHARLES BALLY'S *MODUS* AND GENERATIVE GRAMMAR

SHIGEO KAWAMOTO

A number of ideas developed by the Genevan linguist Charles Bally in his masterly work, "Linguistique générale et linguistique française," appear to me not to be without possible relevance to certain questions which can be raised in the theory and practice of transformational-generative grammar. I have already had an occasion to point out how Bally's concept of *modus* might be made useful in constructing deep structure P-markers<sup>1</sup>.

A second important concept in Bally, closely associated with that of *modus*, is what he called *dictum*. To put it briefly, the *dictum* is what a speaker or a writer wishes to represent in his utterance, while the *modus* is the attitude he takes in making his utterance, that is, that part of an utterance by which the speaker or the writer shows whether he is asserting, questioning, or volitioning. In the following sentence, both the *modus* and the *dictum* are explicitly expressed.

Je crois qu'il ment.  
*modus dictum*

In ordinary declarative sentences, the part corresponding to the *modus* in the above example is omitted more often than not: the verb form (the indicative mood) serves sufficiently to show that the sentence is an assertion, after "je crois" is deleted together with the conjunction "que." Analogous omissions happen to interrogatives and imperatives.

It is not clear to me whether or not Bally's concepts of *modus* and *dictum* are to be traced back to some sources in the traditions of French linguistic thinking. It seems to me that the concepts are his creations rather than elaborations of pre-existing ideas. It is nonetheless true that the concepts of *modus* and *dictum* were present in what Noam Chomsky calls "Cartesian linguistics." Chomsky (1966) has the following passage:

Earlier grammarians provide additional instances of analysis in terms of deep structure, as, for example, when imperatives and interrogatives are analyzed as, in effect, elliptical transforms of underlying expressions with such supplementary terms as *I order you . . .* or *I request . . .*. Thus *venez me trouver* has the deep structure *je vous ordonne (prie) de me venir trouver*; *qui a trouvé cela?* has the meaning of *je de-*

---

<sup>1</sup> Kawamoto (1967)

*mande celui qui a trouvé cela: etc.*<sup>2</sup>

Chomsky is referring here to C. Buffier: *Grammaire françoise sur un plan nouveau* (1709), and adds this remark: "See J. Katz and P. Postal, *An Integrated Theory of Linguistic Description*, §§ 4.2.3, 4.2.4, for development and justification of a very similar idea."

Where Bally exactly stands in the historical currents of French linguistic thinking does not concern me here. I propose only to reconsider his ideas of *modus* and *dictum* in so far as they may be brought into relation with transformational-generative grammar. An occasion for such reconsiderations was offered me when I came to have a chance to peruse some unpublished writings by John R. Ross, notably his dissertation; "Constraints on Variables."

Ross is explicit in declaring that he is envisaging something which appears to me to be similar to what is contained in Bally's idea of *modus*, although a full treatment of his ideas is yet to appear. At least he has written the following:

... I present arguments that all declarative sentences must, in deep structure, be clauses embedded as the object of a verb of communication, like *say* or *declare*, with a first-person subject<sup>3</sup>.

No comments would be necessary for anybody to see what striking similarity there is between this quotation from Ross and what Charles Bally contends, as exemplified in "Il ment" as an abbreviated form of "Je crois qu'il ment."

Now if one adopts this line of thinking, taking into account at the same time what Katz and Fodor advance in their *Integrated Theory*, it might be suggested that the phrase structure rules could begin in something like the following manner:

$$S \rightarrow \text{PreS NP VP}$$

$$\text{PreS} \rightarrow \left\{ \begin{array}{c} A \\ Q \\ V \end{array} \right\} (\text{Neg})$$

where A stands for *Assertion*, Q for *Question*, and V for *Volition*. Katz and Fodor, who have the notation I instead of V, do not posit A, inasmuch as they consider that where there is no Q or I, the sentence to be generated is *ipso facto* a declarative sentence.

It is proposed here, however, to retain A in the hope that by so doing, the mood form of the finite verb of the highest sentence as well as of the lower embedded sentences in the P-marker will be more explicitly defined, and semantically better interpreted. In fact, as will be shown below, M (=Mood, not *Modus* or Modal) preceding T in Aux will generate various sentences in combination with A, Q, or V. Compare, for instance, the following sentences (1) and (2).

(1) Je cherche une maison qui *a* un grand jardin.

(2) Je cherche une maison qui *ait* un grand jardin.

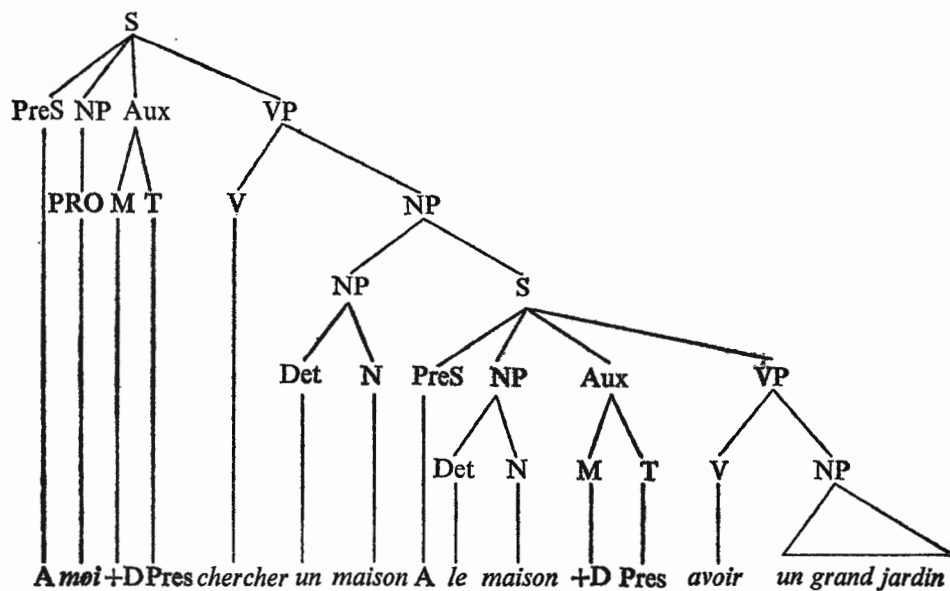
The difference can be reflected in the underlying structures (3) and (4) proposed below,

<sup>2</sup> Chomsky (1966), p. 46 and p. 103.

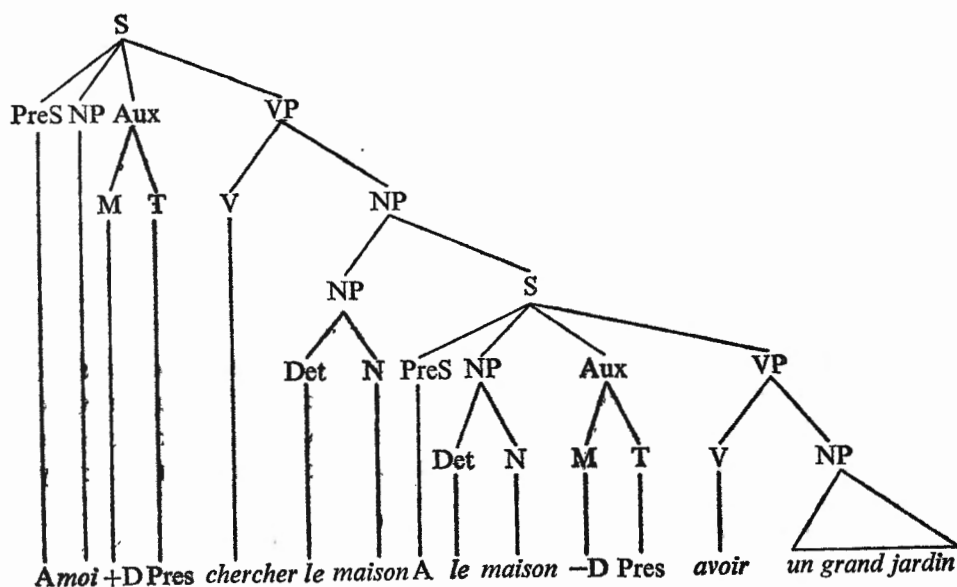
<sup>3</sup> Ross (1967)

in which +D will be represented by the indicative mood in French (commitment to the factualness of the statement), and -D by the subjunctive mood (non-commitment to the factualness of the statement; imagination, wish or fear).

(3)



(4)



In the examples just given, the subject of the higher sentence happens to be identical with the speaker, but that is by no means necessary as shown in (5):

(5) Il cherche une maison qui *a (ait)* un grand jardin.

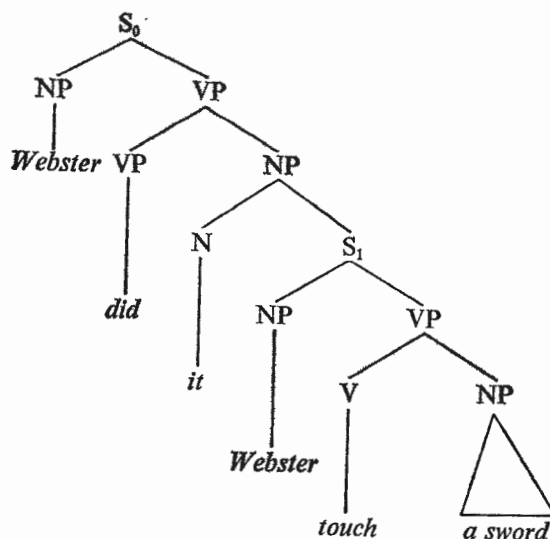
The speaker is enunciating as a fact the circumstance: "il cherche une maison," but he assures or does not assure that such a house *does* exist.

In the following I would like to limit my discussion to PreS and M in the highest sentence.

John Ross says that the sentence (6) is to be derived from a structure shown in (7)<sup>4</sup>.

(6) Webster touched a sword.

(7)



The underlying structure proposed is motivated, among other things, by the possibility of S<sub>1</sub> being deleted, if S<sub>1</sub> is repeated somewhere in the same sentence. See (8):

(8)

- a. Webster touched a sword after Henry had done it.
- b. \*Webster did it after Henry touched a sword.
- c. After Henry had touched a sword, Webster did it.
- d. After Henry had done it, Webster touched a sword.

The sentence *c* above is particularly suited to show how the S-deletion occurs, as in (9):

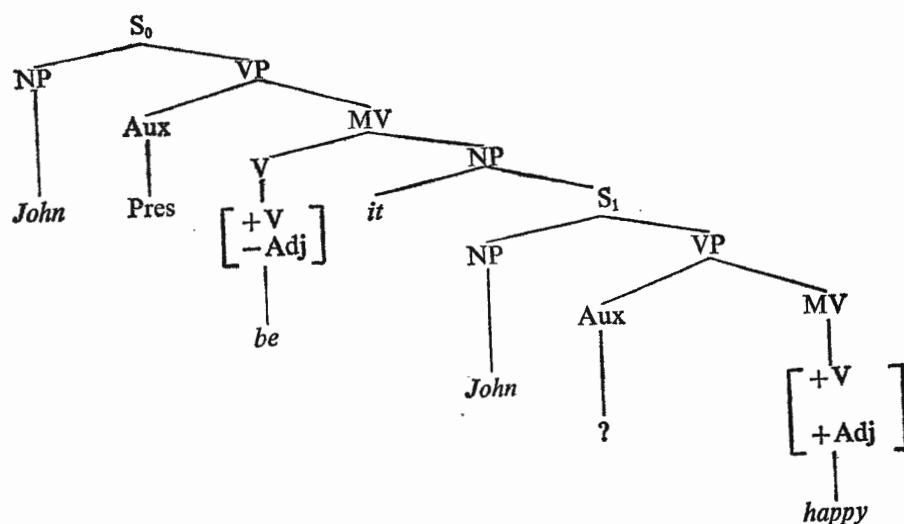
(9) After Henry had touched a sword, Webster did it [Webster touch a sword].

Such an underlying structure must, however, undergo an important change if a sentence contains the copula verb "be." In fact, Ross proposes for (10) the underlying structure (11).

(10) John is happy.

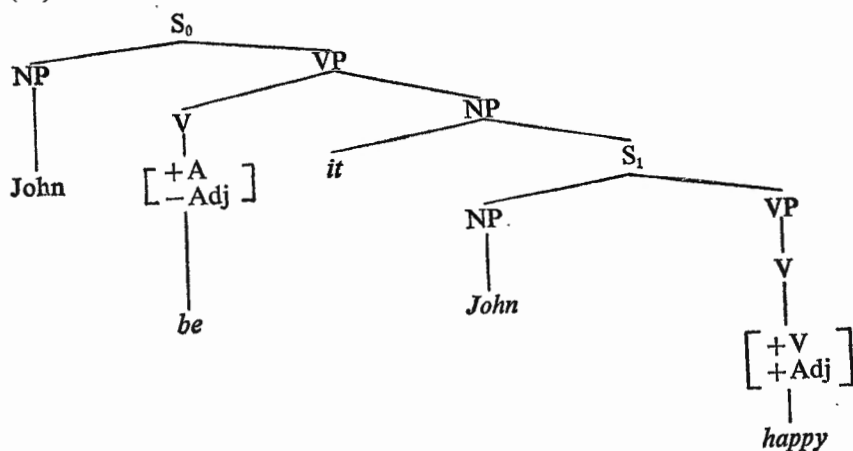
<sup>4</sup> Ibidem.

(11)



Notice that Ross is uncertain about Aux in  $S_1$  here. He is more explicit on this point elsewhere. He modifies his underlying structure, in a sense fundamentally, to the following form:<sup>5</sup>

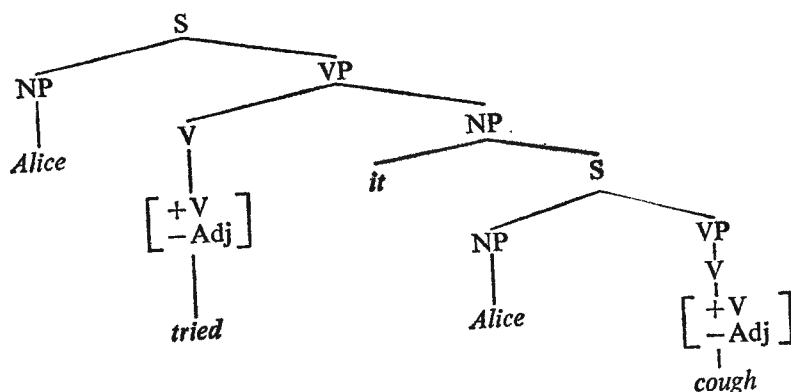
(12)



Then he brings this new underlying structure into parallelism with the structure shown in (13), saying that they are "in all significant respects exactly parallel."

<sup>5</sup> Ross (1966)

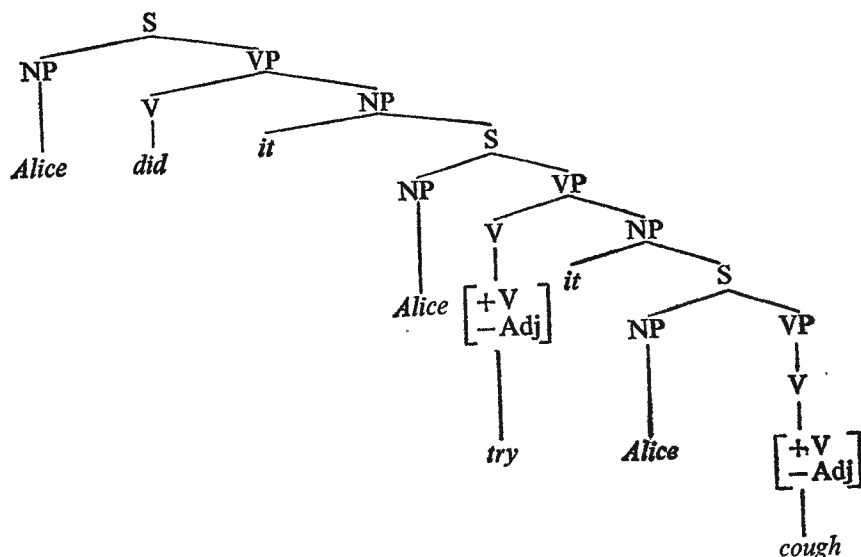
(13) Alice tried to cough.



By "parallel," Ross means that before the underlying structures in (12) and (13) are turned into their surface forms, they must both of them undergo Equi-Noun Phrase Deletion (John in (12) and Alice in (13)), and *it*-Deletion. The only difference is that (13), which contains a real verb with features +V, -Adj, needs the complementizer *to*, while (12), which contains an adjective with the features +V, +Adj, does not need any complementizer.

It must not, however, be overlooked that strictly speaking, (13) ought to be further confronted with the analysis shown in (7), giving thus (14), since under appropriate conditions "Alice tried to cough" will be reduced to "Alice tried it."

(14)





By the same token, (12) will, it is easy to see, be brought back to (11), with its? for Aux in  $S_1$ ; or else neither  $S_0$  nor  $S_1$  will contain Aux.

How does all this come to happen? As I see it, the crux of the problem lies in positing the highest sentence with the subject the same as that in the next lower sentence, and with the main verb *be* or *do* according as the next lower sentence has the verb *be* or a verb other than *be*. "Webster did" in the upper sentence in (7), and "John is" in the upper sentence in (11) are there, as far as I understand, at least partially in order to show that the speaker is making an assertion rather than, for example, a command, although the primary concern for Ross is not that, but rather the question of S-deletion to the right of *it* in the lower sentences.

With a view to obviating the difficulty encountered in (11), I would submit that it might be advantageous to formulate Aux in the following fashion:

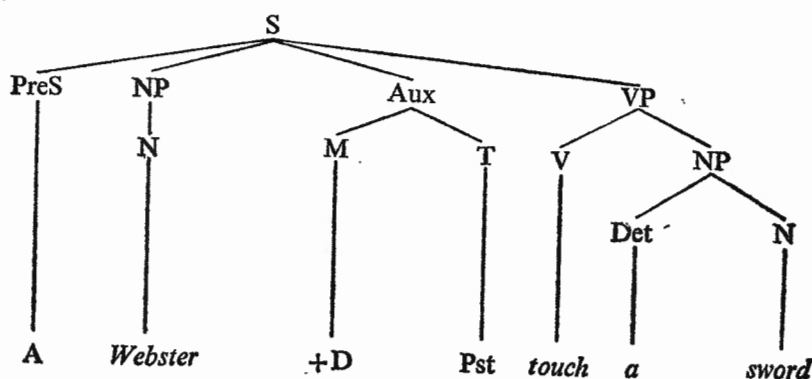
Aux  $\rightarrow$  M—T

where M will be either +D or -D, as mentioned before. In the case of English this would be concretized as,

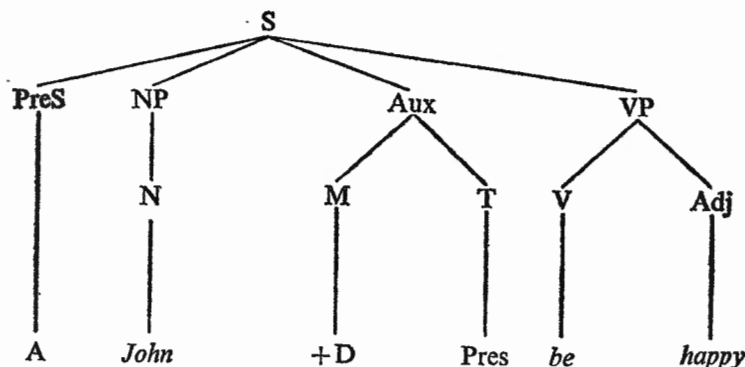
Aux  $\rightarrow$  M—T (Modal) (have EN) (be ING)

Thus (7) and (11) would become (15) and (16):

(15)



(16)



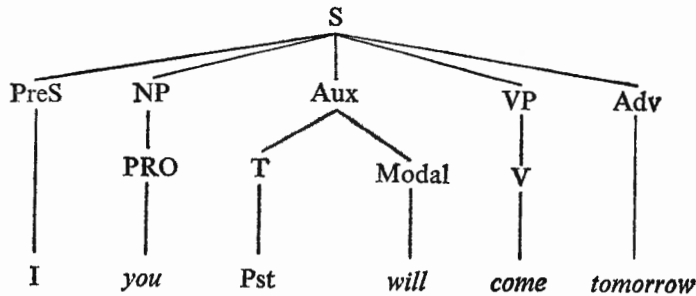
(15) and (16) represent, in a sense, a return to a rather commonplace formulation. Nonetheless some advantage of indicating D, either plus or minus, has already been pointed out in connection with (1)–(4). Another point where D might be usefully put to use is in the derivation of the imperative sentence. This I will exemplify in English.

The most commonly admitted derivation of the English imperative sentence is as follows:

$$\begin{array}{rcccccc}
 \text{SD:} & \text{I} & - & \text{you} & - & \text{Pres} & - & \text{will} & - & \text{X} \\
 & 1 & & 2 & & 3 & & 4 & & 5 \Rightarrow \\
 \text{SC:} & 0 & & \begin{Bmatrix} 0 \\ 2 \end{Bmatrix} & & 3 & & 0 & & 5
 \end{array}$$

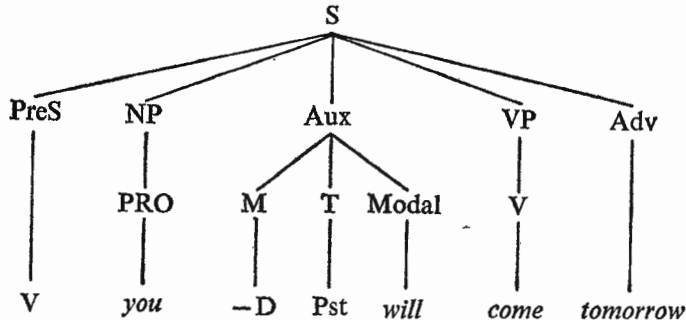
A basic argument for deriving an imperative sentence from an underlying structure containing "You will . . ." is, as is well known, the fact the imperative sentence can be followed by a tag-question: ". . . , won't you?" or ". . . , will you?" Objections to it may be raised on the ground that the tag-question need not necessarily be that, but can be, for instance, ". . . , wouldn't you?", ". . . , could you?", etc. Suppose we have the sentence; "Come tomorrow, wouldn't you?", its underlying structure would have to be something like (17).

(17)



We find in (17) at least two glaring incompatibilities in co-occurrence: (1) "I" by its very nature does not occur with Pst, and (2) the adverb "tomorrow" by its semantic

(18)



nature does not, in principle, co-occur with Pst, either. Now by adding -D in the same underlying structure, would it not be possible to say that exactly this -D deprives Pst of its true temporal color, making it possible for Pst under -D to refer to the present or future time?

## BIBLIOGRAPHY

- Chomsky, Noam (1966): *Cartesian Linguistics*, Harper and Row: New York.
- Kawamoto, Shigeo (1967): "The Place of *Modus* in Transformational Grammar," *Gengo Kenkyu (Journal of the Linguistic Society of Japan)*, No. 51.
- Ross, John R. (1966): "Adjectives as Noun Phrases," unpublished.
- (1967): "Constraints on Variables in Syntax," unpublished M.I.T. Ph.D. dissertation.

WASEDA UNIVERSITY, JAPAN

## К ВОПРОСУ О ДОМИНАНТЕ ПРЕДЛОЖЕНИЯ

А. А. ХОЛОДОВИЧ

1. Современное структурное языкознание рассматривает любое высказывание как многомерную структуру. В настоящее время описаны с разной степенью полноты такие структуры предложения как семантическая (описываемая в терминах т.н. математической логики), синтаксическая (описываемая в терминах либо грамматики зависимостей либо грамматики непосредственно составляющих), морфологическая (описываемая в терминах грамматики управления, согласования и примыкания), информационная (описываемая в терминах т.н. синтаксиса актуального членения предложения на тему и рему) и линейная. Каждая такая структура определяется совокупностью исходных понятий, из которых упомянем здесь понятия функции и аргумента для семантической структуры, понятия детерминации или доминанции для синтаксической структуры и т. п.

2. Синтаксическая структура может быть представлена по-разному. Однако после того как с середины XVIII века синтаксис перестал быть учением только об управлении, согласовании и примыкании, всем его направлениям стала свойственной одна общая черта: любое представление синтаксической структуры исходит из того, что она иерархична, из того, что элементы ее расположены на разных уровнях. Это понимание нашло отражение в таких терминах как главные и второстепенные члены предложения. Такая иерархизация первоначально была, видимо, результатом компромисса между чисто логическим и чисто лингвистическим воззрением на природу предложения: предложение отображает суждение (в том виде, в каком его понимала тогда логика), а все то, что отображает суждение, является в предложении главным; все то, что выделяется в предложении не по логическим основаниям, оказывается второстепенным. В этой иерархизации элементов отобразилось неравноправие самих наук в то время. Такое понимание иерархии сохраняется в традиционном языкознании и до сих пор. Следует при этом отметить, что ни в одной теоретической работе по языкознанию такое понимание иерархии не получило чисто лингвистической интерпретации: лингвистический смысл понятий "главный" и "второстепенный" никогда не был раскрыт.

3. Начало XX века, связанное в синтаксисе с именами Соссюра и Риса, принесло новое понимание иерархии, освобожденное от непосредственной связи с членами предложения, но косвенно поведшее к переоценке иерархического индекса всех членов предложения. Мы имеем в виду обнаружение “молекулярной” структуры предложения, выделение “основной клеточки” предложения—синтагмы и выявление основного и, видимо, единственного отношения между членами синтагмы, а именно отношения д е т е р м и н а ц и и или д о м и н а ц и и или иначе, отношения господства—зависимости (отношение однородности мы считаем вторичным явлением, относящимся к другому уровню, нежели отношение доминанции: оно характеризует не структуру “молекулы,” а структуру ее элементов, то есть либо господствующего, либо зависимого члена синтагмы). К понятию “молекулы” предложения и к понятию основного отношения между ее элементами пришел также и русский лингвист Ф. Ф. Фортунатов: “Всякое простое словосочетание состоит . . . из двух частей, и в этих частях различаются по значению в словосочетании: часть несамостоятельная, являющаяся в сочетании с другой частью, и часть самостоятельная в данном словосочетании, то есть та, с которой сочетается несамостоятельная часть этого словосочетания” (1, 182).

Как для самой “молекулы” так и для членов отношения было предложено много терминов, из которых в дальнейшем мы будем пользоваться только терминами синтагма, хозяин, слуга. Так как синтагмы в составе предложения включены друг в друга по принципу чайнворда (конец одной синтагмы является началом другой), то целое высказывание представляет собою цепочку, в которой один и тот же элемент попеременно выполняет то роль хозяина, то роль слуги. Иерархичность такой структуры обнаруживается а) во-первых, в том, что элементы синтагм, ее составляющие, являются неравноправными, б) и во-вторых, в том, что в силу конечности и замкнутости цепочки синтагм одни элементы такой цепочки оказываются абсолютно господствующими, то есть выполняющими только функцию хозяина, другие элементы господствующими в одном направлении, но зависимыми в другом направлении, а третьи элементы абсолютно зависимыми, то есть выполняющими только функцию слуги. Таким образом получаем три уровня: уровень абсолютного хозяина, уровень хозяина-слуги и уровень абсолютного слуги. Нетрудно показать, что число элементов второго (уровень хозяина-слуги) и третьего (уровень абсолютного слуги) уровней в одном предложении теоретически может быть сколь угодно велико. Но что составляет первый уровень—уровень абсолютного хозяина—в иерархической структуре высказывания?

4. В языкознании на этот вопрос было дано три ответа. Согласно

одной точке зрения первый уровень, доминанту предложения образуют одновременно подлежащее и сказуемое. Это означает, что между подлежащим и сказуемым нет отношения хозяина и слуги, то есть отношения детерминации. Для синтагмы “подлежащее—сказуемое” вводится особое отношение коллатеральности, что естественно приводит к признанию двухвершинной природы предложения. Согласно другой точке зрения отношение детерминации распространяется и на синтагму, состоящую из подлежащего и сказуемого. Это, естественно, ведет к признанию того, что предложение одновершинно, что оно имеет только одну доминанту. Но это означает, что в синтагме “подлежащее—сказуемое” что-то понижается в ранге: либо подлежащее либо сказуемое.

В структурном языкознании принято понижать в ранге сказуемое. Такой точки зрения придерживался, например, Ф. Ф. Фортунатов: “. . . несамостоятельная по значению часть законченного словосочетания представляет собою сказуемое предложения, а самостоятельная по значению часть того же словосочетания является подлежащим предложения” (1, 183). Этой же точки зрения придерживается Карцевский: “знаменательные слова во фразе служат одновременно определяемыми к одним словам и определяющими к другим. Одно из слов остается абсолютным или независимым определяемым и уже ни к какому другому слову определяющим не служит” (2, 27); подлежащее это “абсолютное определяемое при предикате” (2, 32).

В языкознании, связанном с проблемами автоматического перевода, принято понижать в ранге подлежащее. Некоторый, впрочем чисто исторический интерес может представить упоминание о том, что на необходимость понижения в ранге подлежащего и перевода его в ранг дополнений указывал . . . учитель Корочанской прогимназии Дмитриевский, выступивший в 1878–1879 гг. на страницах журнала *Филологические записки* со статьями “Практические заметки о русском синтаксисе” и “Еще несколько слов о второстепенности подлежащего.”

5. Какие лингвистические соображения обычно выдвигаются в пользу доминирующего положения подлежащего в предложении? Наиболее распространенным доводом является обращение к морфологическому признаку; предполагается, что в синтагме маркируется всегда зависимый член, слуга. Сказуемое, как правило, согласуется с подлежащим, а не наоборот; таким образом подлежащее диктует форму согласования сказуемому, а не наоборот. Следовательно хозяином является подлежащее, а не сказуемое. Положение оказывается аналогичным положению в синтагме “определяемое—определение,” где как правило определяемое, то есть хозяин, диктует форму определению, то есть слуге, а не наоборот. Именно этот морфологический аргумент лежит в основе утверждения Куриловича о том, что

в предложении “трава зеленая” “окончание прилагательного само по себе не выполняет никакой иной функции, кроме выражения подчинения сказуемого подлежащему” (3, 52).

Указанный довод страдает однако весьма существенными дефектами. Во-первых, он лишен свойства универсальности: в языке, где отсутствует морфология согласования, такой способ решения вопроса о доминации подлежащего был бы вообще исключен. Но независимо от этого вообще представляется неочевидным, почему наличие морфологической маркировки является знаком зависимости того или иного члена синтагмы. В самом деле в предложении грузинского языка *ma<sup>ma</sup> me<sup>2</sup> çigns<sup>3</sup> m-aðlev-s<sup>4</sup>* “отец<sup>1</sup> дает<sup>4</sup> мне<sup>2</sup> книгу<sup>3</sup>” глагол “давать” согласуется как с подлежащим так и с косвенным дополнением; если следовать морфологическому критерию, то пришлось бы признать, что в грузинском языке в синтагме “дополняемое-глагол+дополнение-имя” слугой является не дополнение, а сказуемое, поскольку оно морфологически маркировано; но это явно противоречит интуиции, рассматривающей в качестве слуги дополнение, а не сказуемое. Возьмем теперь другой пример: словосочетание турецкого языка, состоящее из определения и определяемого типа *talebelerin odaları* “комнаты студентов,” построенное по типу изафета. Интуитивно очевидно, что в таком словосочетании хозяином является определяемое, а слугой определение. Между тем в указанном словосочетании в турецком языке морфологически маркируется и зависимое слово (родительный падеж *-in*) и господствующее слово (аффикс принадлежности третьего лица *-i*). Пользуясь предложенным критерием морфологической маркировки, нам пришлось бы признать, что данная синтагма состоит из двух слуг, что явно противоречит интуиции.

Мы привели примеры с морфологической маркированностью. Но то же самое обнаруживается и в случае, когда маркировка имеет просодический, суперсегментный характер. В африканском языке ибо при соединении существительных *odhù* “хвост” и *eɲwò* “обезьяна” в синтагму “хвост обезьяны” меняется просодический рисунок определяемого, а не определения: *odhù eɲwò*,—явление, аналогичное приведённому выше примеру из грузинского языка: тут, как и там, маркируется хозяин. В африканском языке менде сочетание определения-прилагательного *kūhā* “длинный” с определяемым-существительным *pele* “дорога” даёт синтагму *pele kūhā* “длинная дорога,” в которой оба члена её—и определение и определяемое—меняют просодический рисунок,—явление, аналогичное приведённому выше примеру из турецкого языка: тут, как и там, маркируются как хозяин так и слуга.

Говоря в общем виде, если нам дана синтагма “а+в” где а—хозяин, а в—слуга, то маркированным может быть либо только слуга (а+в<sub>м</sub>), либо только хозяин (а<sub>м</sub>+в), либо как слуга так и хозяин (а<sub>м</sub>+в<sub>м</sub>), либо не слуга

и не хозяин (а+в). Более того, морфологически маркированными, а следовательно формально связанными между собою могут оказаться слова, не входящие в синтагму, например “она” и “унылая” в предложении “она сидит унылая” связаны согласованием, хотя не образуют друг с другом синтагмы (синтагмами являются “она сидит” и “сидит унылая”). Поскольку морфологическая (или просодическая) маркированность не находится в однозначном отношении с определённым членом синтагмы (либо только с хозяином либо только со слугой), то она не может служить критерием для решения вопроса о направлении синтаксической зависимости, то есть вопроса о том, что в синтагме является хозяином, а что слугою.

6. Обратимся теперь к тем лингвистическим соображениям, которые выдвигаются в пользу доминирующего положения сказуемого в предложении. Наиболее убедительным доводом является обращение к признаку репрезентируемости. Предполагается, что то слово синтагмы, через которое она подключается к другой синтагме в процессе порождения предложения, является хозяином, поскольку оно как бы репрезентирует данную синтагму. Этот критерий доминируемости сформулирован в явном виде, кажется, впервые Куриловичем: “внешние связи словосочетания—это связи определяемого (или конституирующего) члена с другими частями предложения” (3, 49). Конечно, синтагма “красная роза” подключается к синтагме “она купила” через слово “роза,” а не через слово “красная,” то есть через хозяина синтагмы “красная роза.” Но ведь точно также “когда одно предложение определяется другим (в случае подчинения. А. Х.), представителями соответствующих предложений выступают именно сказуемые” (3, 54) и точно также, когда предложение подчиняется союзу, то оно подчиняется ему через сказуемое: ср. отношение между союзом “когда” и сказуемым “начинают” в придаточном предложении “когда деревья начинают увядать” с отношением между предлогом “с” и существительным “начало” в словосочетании “с началом увядания деревьев.” Выходит, таким образом, что в предикативной синтагме сказуемое выполняет ту же функцию, какую в атрибутивной синтагме выполняет определяемое; это—функция хозяина: звёзды: мерцают=красная: роза.

Понятие репрезентации заимствовано нами у Куриловича, но мы придаём ему иной смысл. Для нас репрезентация является средством опознания доминирующего члена, хозяина в любой синтагме, в том числе и в предикативной, то есть в синтагме, состоящей из подлежащего и сказуемого. У Куриловича же доминанция в синтагме опознаётся по другому признаку, а именно по признаку согласования, который был отвергнут нами выше; направление детерминации известно ему и независимо от репрезентации: в атрибутивной синтагме по признаку согласования



хозяином является определяемое, а в предикативной по тому же признаку хозяином является подлежащее. Понятие же репрезентации необходимо Куриловичу для того, чтобы показать, что в атрибутивной синтагме репрезентантом является хозяин, а в предикативной синтагме—слуга.

Нам представляется, что признак репрезентации является серьёзным основанием для утверждения, что доминантою предложения является сказуемое. Подлежащее тем самым понижается в ранге и ставится в один уровень с дополнениями и обстоятельствами. Это представление об иерархической структуре будет ещё более адекватным, если сгруппировать элементы второго уровня, слуг сказуемого: подлежащее, дополнение и обстоятельство в две оппозиции: оппозицию первого ранга, где обстоятельство противостоит тотально дополнениям и подлежащим, и оппозицию второго ранга, где дополнение противостоит подлежащему. Противопоставление первого ранга было зафиксировано Теньером (4) в терминах сирконстант и актант. В состав актантов входит подлежащее и дополнения. Они образуют оппозитивную пару, которая может быть названа оппозицией инверсии в широком смысле этого слова. В этой оппозиции в трансформационные преобразования вовлекаются дополнение и подлежащее, но никогда обстоятельство. С этой оппозицией самым непосредственным образом связаны глагольные морфологические категории залога (пассив-актив), контакта (каузатив-антикаузатив), лексикограмматические категории транзитива-интранзитива и лексическая категория инверсива (иметь-есть, купить-продать и т.д.). Сопряжённость понятий подлежащее и дополнение в противоположность понятию сказуемого полностью подтверждает традиционное учение о залоге, как способе выражения субъектно-объектных отношений. В ряде случаев (как например в предложениях типа мне холодно, меня тошнит) противопоставление подлежащего дополнению может нейтрализоваться и вопрос о подлежащем и дополнении в этом случае становится иррелевантным.

7. Мы рассмотрели лингвистические доводы как в пользу доминантности подлежащего, так и в пользу доминантности сказуемого. Мы показали, что признаку репрезентативности должно быть отдано предпочтение перед признаком морфологической или просодической маркированности. Доминантность сказуемого лингвистически доказуема, доминантность подлежащего—нет. Мы ничего не сказали о теории двухвершинности предложения. Это объясняется тем, что в пользу коллатеральности подлежащего и сказуемого вообще не могут быть приведены какие либо лингвистические доводы. Коллатеральность так называемых главных членов предложения—наследие формальной логики.

## ЛИТЕРАТУРА

1. Ф. Ф. Фортунатов. *Избранные труды*. Том I. Москва. 1956.
2. С. О. Карцевский. *Повторительный курс русского языка*. Москва. 1928.
3. Е. Курилович. *Очерки по лингвистике*. Москва. 1962.
4. L. Tesnière. *Éléments de syntaxe structurale*. Paris, 1959.

# A CONTRASTIVE STUDY OF VOCABULARY

—WITH SPECIAL REFERENCE TO ENGLISH AND JAPANESE—

TETSUYA KUNIHIRO

1. The aim of this paper is to present a semantic analysis of some basic Japanese verbs with some English verbs for contrast. It is, of course, possible to some extent to study the vocabulary of a single language without any reference to other languages. However, in order to bring out semantic characteristics more clearly, it seems necessary to bring them into contrast with those of other languages, whether they are genealogically related or not. Indeed, contrastive study is indispensable in any domain of linguistics as well as in other disciplines, to clarify the results of the analysis. Contrastive studies not only bring into relief the characteristics of each language which is brought into contrast, but will provide useful clues for the furtherance of the analysis that can not be obtained from an analysis based on a single language. It should be noted that the basic principle of the contrastive method is that the analysis of each language is first completed without any reference to the other language, and then the results of the analysis of both languages are brought in contrast. The other language may be utilized only as auxiliary clues for, e.g., grouping words of the one language into semantic fields. In this paper, English will be contrasted with Japanese, which is the author's native language.

2. The most effective way of beginning the semantic analysis of vocabulary involves classification into linguistic fields as far as the vocabulary lends itself to such classification. Linguistic fields can be contrasted diachronically or synchronically, and in the latter case only further contrasted dialectally or interlingually.<sup>1</sup> In synchronic interlingual contrast, the differences will be revealed more remarkably between unrelated languages such as English and Japanese than related languages such as English and German.

Discussions dealing with field theory employ terms such as 'conceptual field,' 'linguistic field,' 'lexical field,' 'semantic field,' and 'associative field.' In regard to such terms, the following distinctions will be made in this paper: first, it will be convenient to posit 'conceptual field' as an opposing term to 'linguistic or lexical field,' although they are not entirely independent of each other.<sup>2</sup> Since 'linguistic field' and 'lexical

---

<sup>1</sup> See Suzanne Öhman, 'Theories of the "Linguistic Field"', pp. 132-133.

<sup>2</sup> See Suzanne Öhman, *op. cit.*, p. 128.

field' are understood to be interchangeable, only the former will be used in this paper. 'Linguistic field' can be divided into 'semantic field' and 'associative field'.<sup>3</sup> Words grouped in a semantic field belong to one and the same form-class and have at least one semantic feature in common, whereas words grouped in an associative field are linked by any association, whether it is formal, social, cultural, or semantic, irrespective of form-classes. This field may sometimes overlap the semantic field, but nevertheless it will be convenient to keep them distinct.

3. It is now clear that there are several possible criteria for the classification of linguistic fields, as follows.

(i) Cultural spheres or social situations. J.R. Firth emphasized the importance of taking into consideration the context of situation in linguistic studies:

The setting up of words in ordered series is one of the principal procedures in linguistics. Ordered series of words (o.s.w.) include, for example, paradigms, formal scatter, so-called synonyms and antonyms, lexical groups by association, *words grouped by common application in certain recurrent contexts of situation*, and groups by phonaesthetic association (*italics mine*).<sup>4</sup>

The items grouped by this criterion will be classified under such headings as time, space, weather, geography, fauna, flora, agriculture, horticulture, hunting, fishing, sports, entertainment, dwellings or houses, domestic life, dressing, foods, cookery, political institutions and activities, traffic, social activities, marriage, child-raising, festivals, religion, various occupations, education, etc.

The lexicography should include in its preparatory stage a semantic analysis based on this type of classification, as has been realized in the compilation of some dialect lexicons.<sup>5</sup>

(ii) Semantic classification. As has been explained above, the words belonging to one and the same form-class and sharing at least one semantic feature are grouped by this classification. Here are included synonyms, antonyms, words in hyponymic relation,<sup>6</sup> and words grouped by some situational or physical associations and at the same time belonging to one and the same form-class, e.g., temperature adjectives and color names.

Some words, including temperature adjectives and the names of the parts of the human body, can be classified both culturally and semantically. Compared to the cultural or social classification above, however, groups of words based on semantic

<sup>3</sup> See S. Ullmann, *Semantics*, pp. 238-240; de Saussure, *Cours de Linguistique Générale*, pp. 173-175; John Lyons, *Structural Semantics*, pp. 44-49.

<sup>4</sup> J. R. Firth, *Papers in Linguistics 1934-1951*, p. 228.

<sup>5</sup> Remacle, *Le Parle de la Gletze*, Bruxelles, 1937; Willy Bal, *Lexique du Parler de Jamioulx*, Liège, 1949. These two works were introduced to Japanese dialectology by Professor T. Shibata.

<sup>6</sup> For 'hyponymy', see John Lyons, *Structural Semantics*, § 4.43.

classification have more compact systems, the number of items in each group tending to be more limited.

(iii) Formal classification. In this classification, words with formal similarity are grouped together. There are several kinds:

(1) words with the same root, such as Japanese *mawaru* '(v.i) turn (around),' *mawasu* '(v.t.) turn,' *mawari* '(n.) circumference, neighborhood,' *mawari-kudo* '(adj.) roundabout,' *mawari-michi* '(n.) detour,'<sup>6a</sup> *mawari-mochi* '(n.) things done by turns,' *mawariawase* '(n.) luck,' *ko-mawari* '(n.) small turn,' *ô-mawari* '(n.) roundabout way';<sup>7</sup>

(2) paradigmatic groups of words: for example, the verb *kaku* 'write' and its inflectional forms *kakanai*, *kaki*, *akeba*, *kake*, and *kakô*;

(3) groups of words with the same derivative form: *ôki-sa* '(n.) size, largeness,' *taka-sa* 'height,' *naga-sa* 'length,' *hiro-sa* 'extent, breadth,' *haya-sa* 'speed, rapidity,' *ama-sa* 'sweetness,' *akaru-sa* 'brightness,' *kura-sa* '(degree of) darkness'; and

(4) sound symbolic words, or, in Firthian terminology, 'phonaesthetic' groups of words:<sup>8</sup> *para-para*, *piri-piri*, *puru-puru*, *poro-poro*, *kara-kara*, *kiri-kiri*, *kuru-kuru*, *koro-koro*, *noronoro*, *sowa-sowa*, *paciri*, *pitari*, *pucuri*, *pocuri*, etc.

(iv) Classification by association. Here 'association' is used in a narrow sense. Among the words grouped by bonds of association, only those that are not dealt with by the above-mentioned criteria are relevant here. For example, *zidôsha* 'car' is associated with *hasiru* '(v.i.) run,' *untensuru* '(v.t.) drive,' *syôtoku-suru* '(v.i.) crash,' *kôcû-ziko* '(n.) traffic accident,' *raku-na* '(adj.) comfortable,' *hayai* '(adj.) speedy,' etc. Here belong such groups as *aruku* '(v.i.) walk,' *ashi* '(n.) foot, leg,' and *me* '(n.) eye,' *miru* '(v.t.) see, watch,' *mieru* '(v.i.) see,' which Porzig called 'wesenhafte Bedeutungsbeziehung'.<sup>9</sup> Here also belongs the 'collocational association'.<sup>10</sup> Words used in a more or less fixed collocation, including phrases and proverbial sayings, are collocationally associated with one another. *Go* '(n.) go-game' and *ucu* '(v.t.) strike' are collocationally associated because *go o ucu* 'play go' is a fixed collocation; likewise, *syôgi* '(n.) Japanese chess' and *sasu* '(v.t.) thrust' are associated because *syôgi o sasuru* 'play chess' is collocationally fixed. *Nomu* '(v.t.) drink' is so strongly associated with *sake* '(n.) rice wine' that *nomu* used by itself has come to mean 'drink sake.' *Tana* '(n.) shelf' and *botamochi* '(n.) rice cake covered with sweet bean paste' are associated because they are used together in the proverbial saying *Tana kara botamochi* 'lit., *botamochi* from a shelf, that is, a windfall.'

These four criteria for classification into linguistic fields are interrelated by complex networks.

<sup>6a</sup> In the transliteration of Japanese, ci=chi, cu=tsu, cya=cha, cyu=chu, cyo=cho, and long vowels are indicated by a grave accent mark.

<sup>7</sup> Firth calls this phenomenon 'formal scatter'. English example: *sex, sexed, sexless, sexy, sexiness, sexology*. See Firth, *Papers in Linguistics 1934-1951*, p. 13.

<sup>8</sup> For 'phonaesthetic', see Firth, *op. cit.*, p. 44.

<sup>9</sup> See Y. Ikegami, 'Structural Semantics', p. 54.

<sup>10</sup> Here, 'collocational' means 'cooccurrent.'



must not be confused. Though both are two-dimensional in a sense, 'two-dimensional' is used in this paper in a narrow sense, excluding hyponymy.

(4) Multiple membership. One and the same word can be a member of more than one semantic field. Polysemic words naturally belong to as many fields as the number of sememes they have. A word such as *amai* 'sweet,' which has several syn-aesthetic uses, can be a member of several sensorial fields, (i.e., taste, smell, sound, and emotion: *amai kasi* 'sweet cake,' *amai kaori* 'sweet smell,' *amai mûdo ongaku* 'soft mood music,' *amai koi* 'tender love (affair),' but not conterminous with the English *sweet*.<sup>13</sup> Even a word with only one sememe<sup>14</sup> can be a member of different fields, because each one of the semantic features which constitute the sememe can be a common element of some words. It is sufficient for the items of a field to have only one semantic feature in common by definition. For example, the sememe of *ane* 'elder sister' is composed of the following semantic features: [human] [female] [sibling] [senior]. Thus *ane* can be a member of the following fields:

[human]: *hito* 'person,' *mono* '(nonpolite or humble form) person,'<sup>15</sup> *yacu* '(de-rogatory) guy,' *otoko* 'man,' *onna* 'woman,' *cici* 'father,' *ane*, *gakusei* 'student,' etc.

[female]: *ane*, *imôto* 'younger sister,' *onna* 'woman,' *haha* 'mother,' *cuma* 'wife,' *musume* 'daughter, girl,' *mê* 'niece,' *oba* 'aunt,' *hime* 'princess,' *ninpu* 'pregnant woman,' etc.

[sibling]: *ani* 'elder brother,' *otôto* 'younger brother,' *ane*, and *imôto*.

[senior]: *ani* 'elder brother,' *ane*, *senpai* 'senior,' *tosiu* 'seniority,' *zyôkyûsei*, 'senior student (boy, girl),' etc.

From a slightly different point of view, the pair of *ane-imôto* is a member of the group of relational terms: *oya* 'parent'—*ko* 'child,' *otto* 'husband'—*cuma* 'wife,' *migi* 'right'—*hidari* 'left,' *omote* 'surface'—*ura* 'inside, reverse side,' etc.

5. For the basic principles of our semantic theory the readers are referred to the works by Prof. Hattori and the author himself listed in the bibliography. Here is presented only a very brief outline.

In the analysis of meaning of a word, we distinguish the 'meaning' on the level of an actual utterance and the meaning on the level where all the occasional and individual features and structural and intonational meanings are abstracted to leave only the sociohabitually fixed part, which is called 'sememe,' and a word can have more than one sememe. This distinction is in part parallel to the one between a phoneme and its allophones. A sememe is further analysed into the 'grammatical feature,' the

<sup>13</sup> To English 'sweet voice' we can not equate Japanese '*amai koe*,' instead we have to say '*ucukusii koe*.' In addition, '*ko ni amai oya*' 'parent who is indulgent to his or her child,' '*sen ga amai*' 'the stopper is loose' can not be rendered into English using *sweet*.

<sup>14</sup> For 'sememe' see § 5.

<sup>15</sup> *Mono* can not be used independently when it means 'person,' but is always used in conjunction with some modifiers: for example, '*watasi wa Yamada to yû mono desu*' 'I'm the person named Yamada,' '*cuyoi mono ga kacu*' 'strong person will win.'

'lexical feature,' and the 'stylistic feature.' Only the lexical feature, which can be still further analysed into smaller elements that are referred to as 'semantic features' above, is dealt with in this paper.

6. In the following sections the semantic analysis of some basic Japanese verbs that are classified into various semantic fields is discussed. The clues for the classification will be the corresponding English verbs. There are various types of correspondence between English and Japanese equivalents. In the following exemplification other words than verbs are also used.

(1) One-to-one correspondence.<sup>16</sup>

<i>north</i>	<i>kita</i>
<i>south</i>	<i>minami</i>
<i>east</i>	<i>higasi</i>
<i>west</i>	<i>nisi</i>

(2) One-to-many correspondence. In one sense, this is 'diversification,' but in another sense, 'neutralization.' These terms, borrowed from the theory of stratificational grammar, do not imply any structural connection between the two languages, however.

(i)	<i>early</i>	<i>hayai</i>
	<i>fast</i>	
	<i>quick</i>	

(ii)	<i>for the sake of</i>	<i>...no tame ni</i>
	<i>because of</i>	

(iii)	<i>rice</i>	<i>ine</i>
		<i>kome</i>
		<i>mesi</i>

*Ine* 'rice plant'; *kome* 'mass of rice-grains.' If attention is focussed on individual grains themselves, we say *kome-cubu* 'lit., rice-grain.' *Mesi* '(polite form, *gohan*) boiled

<sup>16</sup> When the four directions are said in a series, the order is *tô-zai-nan-boku* 'east-west-south-north' in Japanese, while in English it is 'north-south-east-west.'

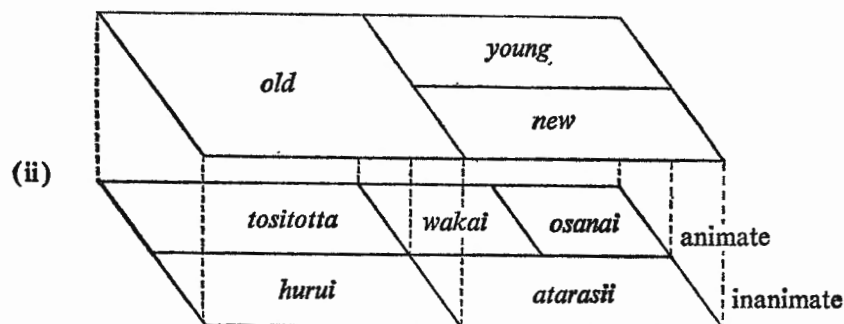


mass of rice-grains.' In parallel with *kome-cubu*, we have *mesi-cubu*, *gohan-cubu*. We also have *raisu*, a word borrowed from English. It is used in restaurants to refer to *gohan* served on a European-style plate as an accompaniment to European-style dishes such as beefsteak, hamburger, pork cutlets, etc.

(3) Interlocking correspondence. Verbs used in cooking.

(i)	ryôri suru	wakasu	heat	cook	make	prepare
		(y)uderu	boil			
		niru				
		taku				
		ageru	deep fry			
		itameru	fry			
		yaku	bake			
		iru	roast			

*Wakasu* 'boil liquid which contains no tangible object'; (y)*uderu* 'cook food in water with the intention of taking it out later'; *niru* 'cook food in (usually seasoned) liquid with the intention of infiltrating it'; *taku* 'boil rice'; *ageru* 'boil food in oil'; *itameru* 'cook food in an oiled vessel'; *yaku* 'expose to heat directly or in a vessel without liquid'; *iru* 'heat fragmentary food (such as soybeans, rice bran, and tea leaves) in a vessel without using liquid'; *ryôri suru* 'cook or prepare food.' '*Ryôri suru*' and '(y)*uderu*, *niru*, *taku*, *ageru*, *itameru*, *yaku*, *iru*' are in hyponymic relation.



This is a system of antonyms. In English *old*, the distinction of 'animate' and 'inanimate' is neutralized. In Japanese, not only the distinction is kept, but also *young* is diversified into *wakai* 'young' and *osanai* '(said of human beings and anthropoids only) young, infant.' In English it is possible to say '*a young child*' but in Japanese \*'*wakai kodomo*' is impossible. Instead we say '*osanai kodomo*.'

	English	Tokyo dialect	Yamaguchi dialect
(iii)	<i>spill</i>	<i>kobosu</i>	<i>kobosu</i>
	<i>pour out</i>		<i>haeru</i>
	<i>pour into</i>	<i>cugu</i>	<i>cugu</i>

*Spill* has as its semantic features, among others, [unintentional],<sup>17</sup> [out of a receptacle] and *pour into* and *pour out* differ from *spill* in having [intentional]. In *kobosu* in the Tokyo dialect the distinction of 'intentional' and 'unintentional' is neutralized,<sup>18</sup> though there are some Tokyoites who use this word only in the 'unintentional' sense. On the other hand, the Yamaguchi dialect, which is the author's native dialect, keeps the distinction.

The Yamaguchi dialect:

*kobosu*: [unintentional] [out of a receptacle]

*haeru*: [intentional] [out of a receptacle]

*cugu*: [intentional] [into a receptacle]

Japanese *cugu* has as its semantic features [intentional] and [into a receptacle], while in *pour* the distinction of 'out of a receptacle' and 'into a receptacle' is neutralized, and it is realized by supplementing *out* or *into* after *pour*. *Kobosu* (in both the Tokyo and Yamaguchi dialects) is used of liquid and granules, but *cugu* and *haeru* are used only of liquids, while *pour into* and *pour out* are used of both liquid and granules.

## 7. VERBS OF GIVING AND RECEIVING

Two of the Japanese verbs of receiving, *morau* and *ukeru* are dealt with in E. H. Bendix, *Componential Analysis of General Vocabulary*. Though Uriel Weinreich spoke highly of his work,<sup>19</sup> as far as the part on the Japanese verbs is concerned, the results

<sup>17</sup> Cf. the definition of '*spill*' in *Webster's New World Dictionary*, New York, 1966: "to allow or cause, especially in an unintentional or accidental manner, to run, fall, or flow over from a receptacle or container, usually with resulting loss or waste: said of a liquid or a loose or granular substance."

<sup>18</sup> Cf. *Iwanami Kokugo Ziten*, *Sanseidō Kokugo Ziten*, s.v., *kobosu*.

<sup>19</sup> Weinreich says in *Universals of Language*, second edition, 1966, p. 193: "The question of empirical validation of semantic analyses against informants' reactions has recently been considered, along with numerous other methodological matters, by Zimmer (1964) and Bendix (1965). The latter study, which takes a significant stride forward in the componential analysis of general vocabulary, has succeeded in isolating a number of fairly abstract semantic components which recur in several unrelated languages, and may well be universal."

do not seem to be acceptable. Bendix compared only three verbs, *morau*, *toru*, and *ukeru*, and limited himself to the analysis of only those components that are sufficient to distinguish the three.<sup>20</sup> In principle there is no problem in starting a semantic analysis with a small set of words, but care must be taken in the selection. Before presenting our revision of Bendix's analysis, we will present his results, as follows:

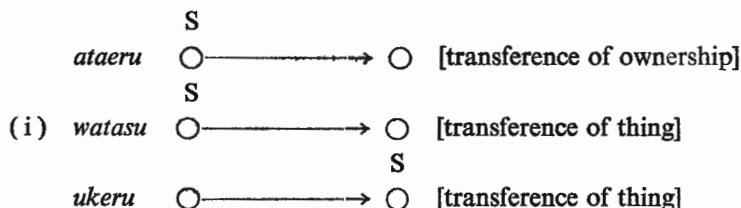
- (i) *A wa B o morau* 'A changes to (there is a relation between A and B)'
- (ii) *A wa B o toru* 'A causes (there is a relation between A and B)'
- (iii) *A wa B o ukeru* 'A changes to (A is characterized by B or A is characterized in that there is a relation between A and B)'<sup>21</sup>

In connection with the analysis of *morau* and *ukeru* he adds:

Whether or not further analysis reveals 'a C<sup>22</sup> causes' to be a criterial component of the meaning of these two verbs rather than just a connotation, their present definitions contain components sufficient to distinguish the two verbs from each other and from the other members of the selected set of verbs and constructions.<sup>23</sup>

His result may be theoretically flawless within the framework of his theory and method, but according to the author's intuition as a native speaker, it must be further elaborated in order to be a complete analysis of these verbs. One of the reasons why his result is not satisfactory is the inadequacy of the selection of words. The three verbs selected belong properly to different sets.

*Ukeru* '(approx.) receive' belongs to a set including *ataeru* '(approx.) give,' *watasu* '(approx.) hand,' and *ukeru* which are grouped as containing 'transference of something' as a common feature. In the diagram below, the arrow stands for 'the direction of transference of something,' and 'S' stands for grammatical subject.



'Transference of ownership' includes in it 'transference of thing' as a natural con-

<sup>20</sup> Bendix, *op. cit.*, p. 3: "On the other hand, we have gone beyond conventional componential analysis in selecting a set of words that is only part of a larger system of mutual oppositions which, unlike a kinship terminology for example, is not clearly delimitable (at least not yet). As a result, we have had to abstain from attempting complete minimal definitions and have been exploring a way of operating with only those semantic components which can be extracted from the mutual oppositions of these particular verbs."

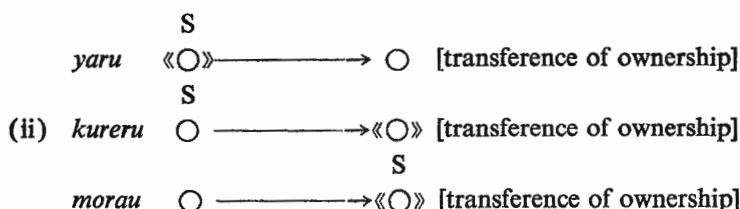
<sup>21</sup> Bendix, *op. cit.*, p. 112.

<sup>22</sup> 'C' stands for 'some third party for *morau* and *ukeru* that gives 'B' to 'A'—i.e., that causes the getting or receiving.'

<sup>23</sup> Bendix, *op. cit.*, p. 113.

comitant.

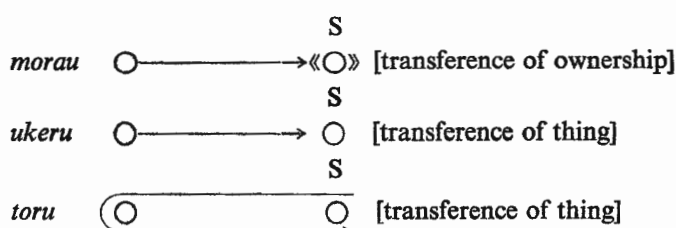
*Morau* '(approx.) be given' constitutes a set with *yaru* '(approx.) give' and *kureru* '(approx.) give.' All three verbs have the 'speaker's standpoint' as a common feature, according to Y. Miyaji.<sup>24</sup> In the diagram below, '《○》' stands for the speaker's standpoint, and 'S' for the grammatical subject.



*Toru* 'take' does not seem to constitute a similar set though it has *ubau* 'take by force in the face of resistance' and *musumu* 'steal' as its hyponyms. The features of *toru* are diagrammatically represented as below.

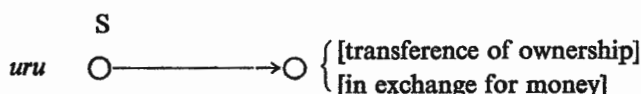


Now we have arrived at the stage where we can compare Bendix's three verbs.

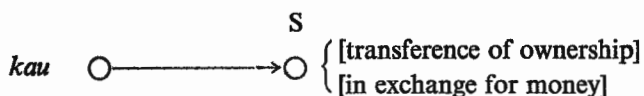


It is clearly seen that the common feature is the transference of something to the grammatical subject. The differential features are: in the case of *morau* the speaker's standpoint is on the side of the grammatical subject, in the case of *ukeru* the speaker's standpoint is neutral, and in the case of *toru* the transference of something is the result of the subject's activity while in the other cases the transference is accepted passively.

Those verbs which have transference of ownership have also [gratuitously] in contradistinction to *uru* 'sell' and *kau* 'buy.'



<sup>24</sup> See Y. Miyaji, "Yaru, Kureru, Morau" o Zyucugo to Suru Bun no Kôzô ni Cuite.'



The verbs of group (ii), *yaru*, *kureru*, and *morau*, have their corresponding polite forms, (*sasi*)*ageru*, *kudasaru*, and *itadaku*, respectively. Thus, in contradistinction, the verbs of group (ii) must be added with a feature [not polite] or [common].

Bendix's method of analysis based on informants' reactions to sample sentences prepared by the investigator must be applied very carefully when the language he investigates is a foreign language with which he is not very familiar.

#### 8. VERBS OF HITTING<sup>25, 25a</sup>

To the English *hit* correspond Japanese *tataku*, *naguru*, *ucu*, and *ataru*, which constitute a semantic field with a common feature 'hit.'

*Tataku*:

- 1) *nigirikobusi de tēburu o tataku* 'hit a table with one's fist'
- 2) *hai-tataki de hai o tataku* 'hit a fly with a fly-swatter'
- 3) *to o tataku* 'knock on a door'
- 4) *taiko o tataku* 'beat a drum'
- 5) *hito no kao o tataku* 'slap someone in the face'
- 6) *zyūtan o tataku* 'beat a rug'
- 7) *kata o tataku* 'pat one's shoulder'
- 8) *te o tataku* 'clap one's hands'

From the observation of these sentences and the action, *tataku* is assumed to have the following sememe:

*tataku*: «give an impact, usually repeatedly, with the hand, with or without an instrument, to an object, which is not to move after receiving the impact»

*Ucu*:

- 1) *batto de bōru o ucu* 'hit a ball with a bat'
- 2) *kanazuci de kugi o ucu* 'hit a nail with a hammer'
- 3) *kabe de atama o ucu* 'hit one's head on the wall'
- 4) *taipuraitā o ucu* 'typewrite'
- 5) *kui o ucu* 'drive in a stake'

It is observed from the examples above that *ucu* has no feature of repetition in contrast with *tataku*, that the action is not done with a bare hand, but with some instrument

<sup>25</sup> Yoshio R. Nagashima's paper, 'Hit, Break, Cut to Sono Ruigigo no Igiso no Kōzō ni Cuite' suggested to the author to attempt the analyses presented in this and the following sections. Some of the examples are taken from his paper. The Japanese version of this section is included in the author's paper, 'Imiron, Goiron' in *Bungaku-Gogaku*, No. 48, Tokyo, which is to be issued in 1968.

<sup>25a</sup> The analyses presented in this paper are limited only to cases where the objects of verbs are concrete, not abstract.

such as a bat, a hammer, a key, or a rod,<sup>26</sup> and that the object moves after receiving the impact. It seems to be the purpose of this action to move the object. Compare the following pairs:

$$\begin{cases} \textit{taiko o tatau} \\ * \textit{taiko o ucu} \end{cases} \quad \begin{cases} \textit{to o tatau} \\ * \textit{to o ucu} \end{cases}$$

The asterisked sentences may not be impossible, but they seem to the author to be archaic and not normal in the present-day colloquial Japanese, in which it seems that *ucu* has acquired a semantic feature of taking a movable object. This seems to be the reason why the asterisked sentences are not normal, *taiko* and *to* being immovable objects. In the case of '*atama o ucu*,' the object moves toward a wall which the author considers is also an instrument, contrary to the usual direction of the instrument moving toward the object. Here, the difference of direction is suppressed and the impact the object receives comes to the fore. It depends upon the movability of the instrument in a particular instance whether the instrument moves toward the object or the object moves toward the instrument. In *tatau* attention is focussed rather on the action itself. In '*bôru o ucu*' (hit a ball), the ball flies away, while in '*bôru o tatau*' (hit or beat a ball with a hand) the ball does not move. In '*kata o ucu*' (hit one's shoulder on something) there is the implication of some injury or pain, while in '*kata o tatau*' (pat or beat one's shoulder) there is no such implication. The sememe of *ucu* is assumed to be as follows:

*ucu*: «give strong impact to a movable object with an instrument»

*Naguru*:

- 1) *hito no kao o naguru* 'hit someone in the face'
- 2) *bô de hito o naguru* 'hit someone with a stick'
- 3) *genkoku de atama o naguru* 'hit one's head with a fist'
- 4) *keikan ga keibô de gakusei o naguru* 'the policemen beat the students with clubs'
- 5) *tecubô de inu o naguru* 'hit a dog with an iron rod'

It is observed that the agent is a human being, that the object is animate, and that the instrument is either a bare fist or some instrument such as a stick, a club, an iron rod which are wielded by a hand. Together with the observation of the actual action and the agent's emotional condition, the sememe of *naguru* is assumed to be as follows:

*naguru*: «(a human agent) gives a strong impact to an animate object with his bare fist or an instrument with the intention of conquering the object»

*Ataru*:

This is an intransitive verb while the verbs dealt with above are all transitive verbs. As has been pointed out by K. Okutsu,<sup>27</sup> it is an intransitivized form of the originally

<sup>26</sup> In '*hiza o ucu*' 'hit one's knee with a hand' (a gesture of admiration), a bare hand is used. However, this is a fixed phrase and the use is bookish or archaic.

<sup>27</sup> See K. Okutsu, 'Zidôka, Tadôka, Oyobi Ryôkyokuka Tenkei—Zi-Tadôsi no Taiô,' Other originally

(in a morphological sense) transitive verb *ateru*. Accordingly, we must first analyze *ateru*.

*Ateru*:

- 1) *ya o mato ni ateru* 'make an arrow hit the target'
- 2) *bôru o batto ni ateru* 'make a ball hit the bat; make the bat hit a ball'
- 3) *kizuguci ni gâze o ateru* 'apply gauze on the wound'
- 4) *me ni hankaci o ateru* 'put a handkerchief to the eyes'
- 5) *sentakumono o hi ni atete kawakasu* 'dry the wash in the sun'
- 6) *kabe ni mimi o ateru* 'put an ear to the wall'

It is observed in the examples above that there is no restriction as to the size of the object. It is a point in such cases as examples 1) and 2), and a plain in other examples. It is also observed that the verb coocurs with '*ni*' which is assumed to have the sememe: «indicates the object of adhesion».<sup>28</sup> One of the principles of our method of semantic analysis is that two words which coocur with each other have at least one semantic feature in common.<sup>29</sup> Thus, *ateru* is assumed to have the following sememe:

*ateru*: «put (something) in touch with»

*Ataru* is used in the following contexts:

- 1) *konna tokoro de isi o nageru-nzya nai; hito ni ataru-zo* 'don't throw a rock around here; you are liable to hit somebody'
- 2) *bôru ga boku no senaka ni atatta* 'a ball hit me in the back'
- 3) *ya ga mato ni atatta* 'an arrow hit the target'
- 4) *isi ga inu ni atatta* 'the rock hit the dog'
- 5) *kizuguci ni ataranai yô ni, sotto syacu o nugu* 'take off one's shirt carefully so as not to touch the wound'
- 6) *ame ga mado ni atatte iru* 'rain is pattering on the window'

When an originally transitive verb such as *ateru* is intransitivized into *ataru*, it obtains the semantic feature of 'result of the action denoted by the original transitive verb.' Thus, *ataru* is assumed to have the following sememe:

*ataru*: «to be made to touch or hit (something) as the result of a previous action»

The resultant touch or hit itself is neutral as to the agent's intention, though the previous action is intentional. The corresponding transitive *ateru* is also intentional. The difference of 'touch' and 'hit' in the sememe depends upon the impetus of the

transitive verbs are, for example: *uderu* 'boil,' *ageru* 'raise,' *tasukeru* 'help,' *tomeru* 'stop,' *uzumeru* 'bury,' *hazimeru* 'begin,' *acumeru* 'gather,' and their corresponding intransitivized forms are: *udaru*, *tasukaru*, *tomaru*, *uzumaru*, *hazimaru*, *acumaru*.

<sup>28</sup> T. Kunihiro, *Kôzôteki Imiron*, p. 224.

<sup>29</sup> See Hattori, 'Descriptive Linguistics in Japan,' ch. 5. The principle of 'mutual correspondence' is defined as follows:

'Free forms which can be syntactically unified with each other share the lexico-semantic features which correspond with each other.'

previous action.

Now it is clear that the meaning of *hit* partially overlaps those of *tataku*, *ucu*, *naguru*, and *ataru*, which have rather specialized sememes. This partial correspondence, together with the existence of rather specialized English verbs, *beat*, *knock*, *punch*, *slap*, *pound*, *rap*, *cuff*, *tap*, *kick*, etc., shows that the sememe of *hit* is fairly general. It would be assumed tentatively to be as follows:

*hit*: «something comes or one makes something come in touch with something, usually with considerable impetus, without missing»

#### 9. VERBS OF BREAKING<sup>30</sup>

To the English transitive verb *break* correspond the Japanese verbs *kowasu*, *yaburu*, *waru*, *kudaku*, *oru*, *kiru*, and *cigiru*, constituting a semantic field. They share a common feature 'change the original shape.' First, let us see their use in linguistic context.

*Kowasu*:

- 1) *kabin (madogarasu, cyawan, sara, koppu) o kowasu* 'break a vase (a windowpane, a rice bowl, a dish, a glass'
- 2) *tamago no kimi (tôhu) o kowasu* 'break the yolk (bean curd)'
- 3) *kami no kataci o kowasu* 'mess up (undo, take down) a hairdo'
- 4) *omocya (kikai, tokei, kamera) o kowasu* 'break a toy (a machine, a watch, a camera)'
- 5) *ie (koya, hasi, kabe, kakine) o kowasu* 'tear a house (a hut, a bridge, a wall, a fence) down'

It is observed in the examples above that *kowasu* is applied to brittle things, things which are soft but have some shape, structural things, and things which have mechanism. Before assuming the sememe, let us survey other verbs.

*Yaburu*:

- 1) *kami o yaburu* 'tear paper'
- 2) *kabe o yaburu* 'tear a wall down'
- 3) *teki no kakomi o yaburu* 'break through the enemy's siege'
- 4) *rô o yaburu* 'break out of jail'
- 5) *syôzi o yaburu* 'tear a paper sliding door'
- 6) *hukuro (cucumi, kimono) o yaburu* 'tear a paper bag (a paper package, one's clothes)'
- 7) *hina ga kara o yabutte dete kuru* 'a chicken breaks the eggshell when it is hatched'

It is observed that *yaburu* is applied to things which are flat such as paper, walls, cloth, and enclosures such as in a siege, packages and eggshell. Furthermore, some restrictions in usage are observed:

- |   |   |
|---|---|
| $\left\{ \begin{array}{l} \textit{kami o yaburu} \text{ 'tear paper'} \\ \textit{*kami o kowasu} \end{array} \right.$ | $\left\{ \begin{array}{l} \textit{*kabin o yaburu} \\ \textit{kabin o kowasu} \text{ 'break a vase'} \end{array} \right.$ |
|---|---|
- Cf. 
$$\left\{ \begin{array}{l} \textit{tento o yaburu} \text{ 'tear the canvas of a tent'} \\ \textit{tento o kowasu} \text{ 'put down (push over) a pitched tent'} \end{array} \right.$$

<sup>30</sup> The Japanese version of this section is 'Break to Sore ni Taiô Suru Nihongo Dôsi no Igiso,' which is to appear in *Eigo Seinen*, August, 1968, Tokyo.



This suggests that *yaburu* is applied to two-dimensional things while *kowasu* is applied to three-dimensional things or structure. It is noted that *kabe* 'wall' is used with both *kowasu* and *yaburu*. This is explained that *kabe* can be grasped either as a flat thing or as a part of a structure such as a house and a jail.

*Waru*:

- 1) *kabin (madogarasu, cyawan, sara, koppu) o waru* 'break a vase (a windowpane, a rice bowl, a dish, a glass'
- 2) *isi (kôri, tamago) o waru* 'break a rock (ice, an egg) into fairly large pieces'
- 3) *hune ga kôri o waru* 'the ship breaks the ice'
- 4) *maki o waru* 'chop (split) wood with an ax'
- 5) *ryôte de ringo o waru* 'split an apple open with one's hands'
- 6) *hiza o waru* 'part one's knees'
- 7) *kurumi o waru* 'crack a nut'
- 8) *kêki o ikucu ni mo waru* 'divide a cake into several pieces'

It is observed that the effect of *waru*, i.e., the rip, extend to the whole length of the object, not a part of it, and that the resultant number of pieces is comparatively small, from two to several. In the following pair,

- { (i) *kabin o kowasu* } 'break a vase'  
 { (ii) *kabin o waru* }

it will be clear that in sentence (i) breaking may extend to only a part or the whole body, while in sentence (ii) breaking extends to the whole body, that is, *kowasu* is a more general term than *waru*.

Compare the following pairs:

- { (iii) *maki o waru* 'split wood'  
 { (iv) *\*maki o kowasu*  
 { (v) *ringo o hutacu ni waru* 'break an apple in two'  
 { (vi) *\*ringo o hutacu ni kowasu*

It is observed that *kowasu* has a semantic feature 'demolishment of the original structure, mechanism, or function.' *Maki* and *ringo* are grasped as having neither structure nor mechanism nor function, but just as materials for burning or nourishment. *Kowareta mono* is of no use, but *wareta mono* may still be of use, because *waru* denotes just the action of breaking, splitting, or dividing the whole body into fairly large pieces. *Waribasi* 'splittable chopsticks' is only useful after it has been split, that is, '*warana-kereba yaku ni tatanai*.' Indeed, *wareta kabin (madogarasu, sara, koppu)* 'a broken vase (windowpane, dish, glass)' is more or less useless, but the reduction of usefulness is not included in its sememe, that is, it is irrelevant.

*Kudaku*:

- 1) *ôkina isi o hanmâ de kudaku* 'break a large rock into pieces with a sledge hammer'
- 2) *kiri de kôri o kudaku* 'break ice with an ice pick'
- 3) *zyôzai o kudaku* 'crush a tablet'

Compare the following pairs:

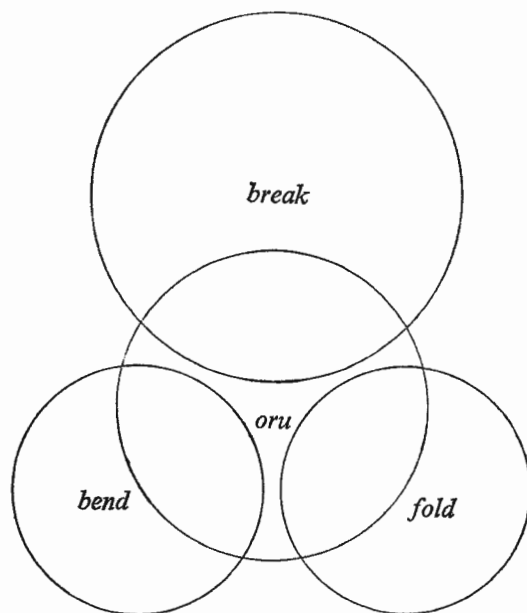
- { *kôri o kona-gona ni kudaku* 'break ice into pieces'  
 { \**kôri o hutacu ni* 'in two' *kudaku*  
 { \**kami* 'paper' *o komakaku kudaku*  
 { *cuci (kakuzatô) o komakaku kudaku* 'break earth (lump sugar) into pieces'

It is inferred by the principle of 'mutual correspondence,'<sup>29</sup> that *kudaku* has the semantic features 'resultant pieces are very small particles' and 'the object is three-dimensional, not a sheet.'

*Oru*:

- 1) *kare-eda o oru* 'break a dead branch'
- 2) *enpicu no sin (ude, hone) o oru* 'break a pencil lead (one's arm, one's bone)'
- 3) *hiza o oru* 'bend one's knees'
- 4) *kami o hutacu ni oru* 'fold a piece of paper in two'

The common semantic feature that *oru* shows in the examples is that some bending force is given to an object so that it becomes 'V'-shaped, or double. Comparison with *mageru* 'bend' and *tatamu* 'fold' reveals that in *oru* the result is a sharp-edged corner. It is irrelevant whether the object is severed in two or not, and whether it stays double or not. In '*hone o oru*' 'break one's bone,' *hone* usually does not stay double, and attention is focussed on the severance. Brittle objects such as a dead branch, a bone, and a pencil lead will be broken in two, while flexible objects such as a knee, paper, and rubber will not break. Thus the usage ranges of *break*, *bend*, *fold*, and *oru* are in such a relation as is shown in the diagram below.



*Kiru:*

- 1) *te de ito (himo) o kiru* 'break a thread (string) with one's hands'
- 2) *cume-kiri de cume o kiru* 'cut nails with nail-clippers'
- 3) *pan o icimai kiru* 'cut a slice of bread'
- 4) *ringo o kiru* 'cut an apple'
- 5) *hasami de kami o kiru* 'cut a piece of paper with scissors'
- 6) *kubi o kiru* 'cut one's head off; cut the skin of the neck'
- 7) *pan (remon, hamu, bêkon) o icimai kiru* 'slice a piece of bread (lemon, ham, bacon)'
- 8) *sin o kiru* 'trim the wick; cut off the wick'
- 9) *kippu o kiru* 'punch a ticket'

The common feature of *kiru* in these examples is 'to sever the continuity of (a part of) something.' It immediately reminds us that *waru* also has a feature of 'severance.' Here also, contrast of the two verbs will help us to penetrate their characteristics.

- (i) { *\*kami (kire) o waru*  
      *kami (kire) o kiru* 'cut a piece of paper (cloth)'
- (ii) { *\*ito o waru*  
       *ito o kiru* 'break (cut) a line of thread'
- (iii) { *\*niku o waru*  
       *niku o kiru* 'cut (slice, carve) the meat'
- (iv) { *sara o waru* 'break a dish'  
       *\*sara o kiru*

At first glance, these pairs seem to imply that *waru* is applied to hard substance while *kiru* is applied to comparatively soft substance. However, this observation will prove to be superficial if we take into account the following examples.

- (v) { *pan o te de hutacu ni waru* 'break bread in two with one's hands'  
      *pan o kiru* 'slice bread'
- (vi) { *garasu o waru* 'break glass'  
       *garasu o kiru* 'cut glass'
- (vii) { *sakana no hara o waru* 'cut open the abdomen of a fish (to clean it)'  
        *sakana no atama o kiru* 'cut off the head of a fish'
- (viii) *hiza o waru* 'part one's knees'

These examples imply that *waru* concerns the whole body of the object while *kiru* only a part of it. The reason why *kami* 'paper' and *ito* 'a length of thread' are not used with *waru* seems to be the Japanese linguistic habit that they are not grasped as having either hardness or body. It is possible to say '*ito no taba o hutacu ni waru*' 'divide the bundle of thread in two,' because *taba* 'bundle' is grasped as 'body.' The action '*kiru*' may sometimes change the shape of the whole body eventually, but the speaker's attention is directed only to the severance. The following pairs will corroborate this observation.

- (ix) { *atama o waru* 'crack one's skull'  
       *atama o kiru* 'cut the scalp'

- (x) { *maki o waru* 'split firewood'  
       *maki o kiru* 'cut wood crosswise to make firewood'
- (xi) { *isi o waru* 'break a rock'  
        *isi o kiru* 'cut out rocks to make materials for a mason'

*Cigiru:*

- 1) *pan o hutacu ni cigiru* 'break (tear, rip) the bread in two'
- 2) *kami o nanmai ka ni cigiru* 'tear (rip) a piece of paper into bits'
- 3) *wata o te de cigiru* 'tear cotton with one's hands'
- 4) *yawarakai moci o cigiru* 'tear soft rice cake'
- 5) *samukute mimi ga cigire sô da* 'it is so cold that I feel my ears are going to be torn off'
- 6) *sode o cigiru* 'tear off the sleeve'
- 7) *botan (himo) o cigiru* 'tear off a button (cord)'

It is observed that the object is soft and more or less "tenacious," and that it is severed by the force of pulling, not by an edged tool. The number of the resultant pieces seems to be irrelevant. The shape of the piece(s) seems to be also irrelevant, while *saku* 'tear lengthwise' produces a long tear.

10. From the preliminary analyses above, it was found out that the following features seem to be relevant to the verbs of breaking.

(A) Type of change: severance, or only change of shape.

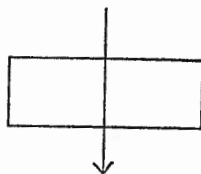
(B) Characteristics of the object: whether it is two-dimensional, that is, flat and thin, or three-dimensional, that is, massive or structural; whether it is hard, brittle, soft, or tenacious; whether its mechanism and function is taken into account or not.

(C) Direction of the force exercised on the object:

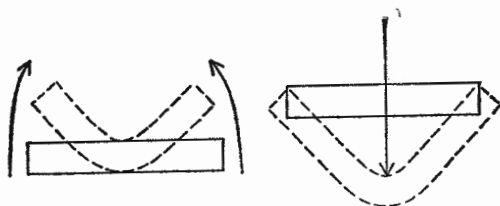
(1) 'hitting'



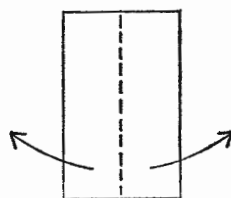
(2) 'crosswise'



(3) 'bending'



(4) 'dividing'



## (5) 'pulling'



(D) Extent of the effect of force: whether it is the whole or a part of the object.

(E) Resultant piece(s): whether it is large or small; whether the number of the pieces is large or small.

(F) Demolishment: whether the change makes the object useless or not.

11. The sememes of the verbs of breaking are assumed to be as follows:

*kowasu*: «destroy a three-dimensional object which usually has structure or mechanism, and damage the function, the means and extent of the action being irrelevant»

The hardness of the object is irrelevant. In figurative uses such as '*onaka o kowasite iru*' 'my stomach is out of order,' '*karada o kowasu*' 'destroy health; health fails,' a part of the sememe 'damage the object's function' is used.

*yaburu*: «destroy a two-dimensional object which sometimes constitutes a barrier»

Even in the case where the object is a part of a structure and the destruction of the part is tantamount to the destruction of the function of the structure, the speaker-hearer's attention is directed to the destroyed part. In the examples '*teki no kakomi o yaburu*' 'break through the enemy's siege,' and '*kara o yaburu*' 'break an eggshell,' the encirclement is considered a barrier; similarly, in the figurative use, '*kiroku o yaburu*' 'break the record,' the record is considered a kind of barrier. Thus *yaburu* has the connotation 'overcome the resistant force of a two-dimensional object.' The manner of action is usually 'thrusting' or 'tearing,' but this is only a natural consequence of the two-dimensional character of the object and is not included in the sememe.<sup>31</sup>

*waru*: «sever an object having body, whether it be hard or soft, or a brittleness, into fairly large pieces by bending or dividing force with the effect extending over the whole body of the object»

It is irrelevant whether the severance makes the object useless or not.

*kudaku*: «convert a three-dimensional hard object into very small pieces»

*oru*: «exercise bending force on a thin object so as to make a sharp-edged

<sup>31</sup> *Yaburu* is metaphorically used as follows: *sekai no heiwa o yaburu* 'disturb world peace,' *cinmoku (seizyaku) o yaburu* 'break silence.' These uses will be easily understood if we comprehend that *yaburu* concerns with a two-dimensional enclosure. *Heiwa* 'peace' and *cinmoku* 'silence' are considered as a kind of surrounding atmosphere.

corner»

It is irrelevant whether the action severs the object in two or not, whether the object is brittle or tenacious, and whether the action makes it useless or not. It was mentioned above that *oru* partly overlap *bend* and *fold*. In this connection, it is of some interest to note that we have compound-verbs *ori-mageru* (*mageru* 'bend') and *ori-tatamu* (*tatamu* 'fold').

*kiru*: «sever part of an object cleanly with attention directed only to the severed place»

In '*te de ito o kiru*' 'break a thread with one's hands,' one would say that the severed ends are not sharp. However, the severance could be said to be relatively sharp if we think of the ratio of the length of the thread to the width. The sharpness is an important feature of *kiru*. Compare *kire-naga no me* 'sharp-cornered eye,' *kireru otoko* 'sharp man'. A sharp-edged tool is usually necessary to make a sharp severance, but it is not always the case. As long as the consequent severance is sharp, the tool does not matter: *mi o kiru yōna cumetai kaze* 'lit., flesh-cutting cold wind,' *curuhasi de yama o kiru* 'cut into a hill with pickaxes.'

*cigiru*: «sever a tenacious object by pulling with one's hands into (usually but not necessarily) small pieces»

Now, what is the sememe of *break* which corresponds to these various Japanese verbs? As mentioned above, the meaning of *break* does not cover the whole range of their use. Therefore only the overlapping portions are to be considered here. *Break* corresponds to *oru* only when *oru* concerns brittle objects, and to *kiru* when a thread is severed by pulling with the hands (*te de ito o kiru*). These seem to be important clues to the analysis of the sememe. In English, on the other hand, an edged tool must be used crosswise in '*cutting a thread*,' to which corresponds also '*ito o kiru*.' In all the cases where *break* means 'severance,' an edged tool is usually not used, no matter what the quality of the object is. These considerations lead to the following assumption concerning the sememe of *break*:

*break*: «overcome (by force of any type, but usually without the use of an edged tool) the object's dynamic resistance and sever the continuity»

The continuity of an object may be that of physical matter, structure, a connection of biological cells, etc. In the case of a tenacious substance, 'breaking' takes place the moment the force overcomes the limit of tenacity. The feature 'overcome resistance' will explain the following metaphorical uses: *break a law* (*a promise, one's habit of late rising*). We are socially required to observe a 'law,' expected to keep a 'promise,' and a 'habit' has force to continue, and the requirement, expectation, and force to continue are, so to speak, kinds of resistance from the point of view of those who will break them. The corresponding Japanese verb to the metaphorical uses of *break* is *yaburu*, of which the core of the sememe is 'destroy a barrier,' that is 'overcome the

resistant force of a two-dimensional object.' This common feature of the two verbs explains the correspondence.

The adequacy of the sememes we assume can be measured to some extent by their capability of explaining metaphorical or transferred uses.

UNIVERSITY OF TOKYO, JAPAN

[This work was supported in part by the English Language Education Council, Inc., Tokyo, and the scientific research grant from the Ministry of Education, Japan. The author wishes to express his sincere gratitude to Mr. Jay A. Johnson of TEC Company, Tokyo, who read the manuscript and made valuable suggestions. However, the remaining errors and inadequacies are of course all the author's. March, 1968.]

#### BIBLIOGRAPHY

- Bendix, Edward Herman, *Componential Analysis of General Vocabulary: the Semantic Structure of a Set of Verbs in English, Hindi, and Japanese*. Indiana University, 1966.
- Ellis, Jeffrey, *Towards a General Comparative Linguistics*. Mouton, 1966.
- Firth, J. R., *Papers in Linguistics 1934-1951*. Oxford, 1957, 1964.
- Gove, Philip B., 'Subject Orientation Within the Definition,' *Monograph Series on Languages and Linguistics*, No. 14. Georgetown University, 1961.
- Hattori, Shirô, 'Imi ni Kansuru Ichi Kôsan' (A Thought on Meaning), *Gengo Kenkyû*, No. 22/23, 1953. Reprinted in his *Gengogaku no Hôhō*.
- , 'The Analysis of Meaning,' *For Roman Jakobson*, Mouton, 1956. Reprinted in his *Gengogaku no Hôhō*.
- , *Gengogaku no Hôhō* (Methods in Linguistics). Iwanami Shoten, Tokyo, 1960, 1967.
- , 'Descriptive Linguistics in Japan,' *Current Trends in Linguistics*, Vol. II. Mouton, (to appear). The Japanese version in *Kokugogaku*, Nos. 62, 64, 1966.
- , 'Gengo no Onsei to Imi' (The Sound and Meaning of Language), *Kokugogaku*, No. 56, 1964. The English version in *Foundations of Language*, 1, 1965.
- , 'Igiso no Kôzô to Kinô' (Structure and Function of the Sememe), *Gengo Kenkyû*, No. 45, 1964.
- , 'The Sense of Sentence and the Meaning of Utterance,' *To Honor Roman Jakobson*, Mouton, 1967.
- Haugen, Einar, 'The Semantics of Icelandic Orientation,' *Word*, Vol. 13, 1957.
- Ikegami, Yoshihiko, 'A Semantic Analysis of the Verbs of Motion,' *Nakajima Fumio Kyôzyû Kanreki Kinen Ronbunshû* (To Honor Prof. Fumio Nakajima's Sixtieth Birthday), Kenkyusha, Tokyo, 1965.

- , 'Structural Semantics,' *Linguistics*, No. 33, Mouton, 1967.
- Katz, Jerrold J., 'Recent Issues in Semantic Theory,' *Foundations of Language*, 3, 1967.
- Katz & Fodor, 'The Structure of a Semantic Theory,' *Language*, Vol. 39, 1963. Reprinted in Fodor & Katz, *The Structure of Language*, Prentice-Hall, Inc., 1964.
- Kunihiro, Tetsuya, 'Eigo Number no Igiso' (The Sememes of the English Number), *Gengo Kenkyû*, No. 45, 1964.
- , 'Eigo "Dôsi + Mokutekigo" Kôzô no Bunseki' (An Analysis of the English "Verb + Object" Structure), *Bulletin of Shimane University (Humanities)*, No. 16, 1966.
- , *Kôzôteki Imiron—Nicie Ryôgo Taisyô Kenkyû* (Structural Semantics—Contrastive Studies in English and Japanese), Sanseido, Tokyo, 1967.
- Kurath, Hans, 'The Semantic Patterning of Words,' *Monograph Series on Languages and Linguistics*, No. 14, Georgetown University, 1961.
- Lamb, Sydney M., 'The Sememic Approach to Structural Semantics,' *American Anthropologist*, Vol. 66, No. 33, Part 2, 1964.
- Leisi, Ernst, *Der Woltinhalt. Seiner Struktur im Deutschen und Englischen*. Quelle & Meyer, 1953. The Japanese translation, *Imi to Kôzô* (Meaning and Structure), (tr. by Takao Suzuki), Kenkyusha, Tokyo, 1960.
- Lyons, John, *Structural Semantics. An Analysis of Part of the Vocabulary of Plato*. Basil Blackwell, 1963.
- Miyaji, Yutaka, "'Yaru, Kureru, Morau" o Zyucugo to Suru Bun no Kôzô ni Cuite' (On the Construction of Sentences Which Have the Verbs *Yaru*, *Kureru*, and *Morau* as the Predicates), *Kokugogaku*, No. 63, 1965.
- Nagashima, Y. R., 'Hit, Break, Cut to Sono Ruigigo no Igiso no Kôzô ni Cuite' (On the Sememic Structure of *Hit*, *Break*, *Cut* and Their Synonymous Words), *Gengo Kenkyû*, No. 52, 1968.
- Öhman, Suzanne, 'Theories of the "Linguistic Field",' *Word*, Vol. 9, 1953.
- Okutsu, Keiichiro, 'Zidôka, Tadôka Oyobi Ryôkyokuka Tenkei—Zi-Tadô no Taiô—' (Intransitivization, Transitivity, and Polarization of Japanese Verbs), *Kokugogaku*, No. 70, 1967.
- Saussure, Ferdinand de, *Cours de Linguistique Générale*. Payot, 1949.
- Sibata, Takesi, 'Hôgen—Gendai no Mondai to Kaikecu—' (Dialect—Present-day Problems and the Solution—), *Bungaku-Gogaku*, No. 25, 1962.
- , 'Gengo ni Okeru Imi no Taikei to Kôzô' (System and Structure of Meaning in Language), *Kagaku Kisoron Kenkyû*, Vol. 7, No. 3, 1965.
- , 'Goi Sidô e no Teigen—"Kanren-goku" to Imi no Bunseki' (Advice to Vocabulary Teaching—"Related Words" and the Analysis of Meaning), *Kôkô Kokugo Kyôiku*, No. 5, Sanseido, Tokyo, 1965.
- Ullmann, Stephen, *The Principles of Semantics*, Basil Blackwell, 1951, 1957.
- , *Semantics. An Introduction to the Science of Meaning*. Basil Blackwell, 1962, 1967.



Weinreich, Uriel, 'On the Semantic Structure of Language,' *Universals of Language*, second edition, M.I.T. Press, 1966.

———, 'Explorations in Semantic Theory,' *Current Trends in Linguistics*, Vol. III, Mouton, 1966.

———, *Languages in Contact. Findings and Problems.* Mouton, 1953, 1967.

# SOME PROPERTIES OF NON-REFERENTIAL NOUN PHRASES<sup>1</sup>

SUSUMU KUNO

§ 1. It has long been observed that predicative noun phrases, as in

(1-1) a. His brother is not *a gentleman*.

b. I don't want to become *a hypocrite*.

require a special syntactic treatment for relativization and pronominalization. For example,

(1-2) a. He is a gentleman,  $\left\{ \begin{smallmatrix} \textit{which} \\ \textit{*who} \end{smallmatrix} \right\}$  his brother is not.<sup>2</sup>

He is a fool, although he doesn't look *it*.

b. He is a hypocrite,  $\left\{ \begin{smallmatrix} \textit{which} \\ \textit{*who} \end{smallmatrix} \right\}$  I don't want to become.

Jespersen,<sup>3</sup> for example, states the following.

Sentences like this, "he is not the man which his father wanted him to be" or "he is a gentleman, which his brother is not" are often given by grammarians as examples of *which* referring to nouns denoting persons, and a special rule is then given that this is still possible "when it expresses the idea of estate, rank, dignity" (Curme) or "in reference to character, function, or the like" (NED, *which* 8c). But the reason for the use of *which* is simply this that the relative is a predicative, and predicatives in English, as in many other languages (see PG242) are felt to be neuter, as shown by the use of *it* and *what*: the quality, not the person, is thought of.

The use of *which* in referring to humans is not restricted to predicative noun phrases,

<sup>1</sup> Research reported here has been supported in part by the Department of Linguistics, and the Division of Engineering and Applied Physics, Harvard University, and in part by a grant from the National Science Foundation to Harvard (GS-1934). I am greatly indebted to Paul Postal for a brief, but stimulating discussion that motivated me into working on this research, to George Lakoff for his insightful comments on an earlier version of this paper, and to Robin Lakoff, David Perlmutter, Bruce Fraser, Brian Sinclair, Sheila Blumstein, Sheila Duncan and Rachel Travers, for their invaluable assistance in providing examples and counterexamples, and in discussing the subject with me.

<sup>2</sup> ?, ??, ?\*, and \* are used for marking the increasing degree of ungrammaticality: sentences marked with a ? are awkward or on the borderline of grammaticality, while those with a \* are ungrammatical.

<sup>3</sup> Jespersen, O., *A Modern English Grammar on Historical Principles*, § 6.4.4, pp. 123-124, George Allen and Unwin Ltd., London, reprint 1954.

as is shown in the following example.

(1-3) What everyone needs is a devoted wife, and you don't *have a devoted wife*.

What everyone needs is a devoted wife, *which* you don't *have*.

In this paper, I will discuss some properties of predicative noun phrases (§ 2), problems of reference of these noun phrases (§ 3), and other types of noun phrases, as in (1-3), which display similar characteristics with respect to relativization and pronominalization, and how these noun phrases behave in conjoined sentences (§ 4).

§ 2. Various syntactic properties of predicative noun phrases are enumerated and discussed below.

§ 2. 1 As was illustrated in § 1, *which* is used for replacing human predicative noun phrases. More examples follow. Note that what is at issue is the function of a deep structure noun phrase which is realized as *which* in the surface structure, and not the function of the antecedent of *which*.

(2-1) a. He wants to be a genius, *which* he is *not*.

b. A career girl, *which* my fiancée doesn't happen to *be*, attracts me most.<sup>4</sup>

c. The defendant says that he robbed a brunette, *which* the witness is *not*.

In (2-1b), the antecedent of *which* is a generic noun phrase *a career girl*, while in (2-1c), it is a specific *brunette* with a referent in the present universe of discourse. However, in all the sentences in (2-1), noun phrases which have been relativized are predicative, and this accounts for the use of *which*, and not *who*, as the selected relative pronoun.

§ 2. 2 Relative pronoun *what* appears in (2-2) for referring to humans.

(2-2) a. *What* John wants to *become* is a medical doctor.

*What* Johnson *is* is the President of the United States.

*What* he turned out to *be* has impressed me.

b. \**What* I *met* was a friend of mine.

\**What* I *talked to* was the President of the United States.

In (2-2a), noun phrases which are realized as *what* are predicative noun phrases, while in (2-2b), they are noun phrases with specific referents in the universe of discourse. Note also that *what* is acceptable when a noun phrase which it replaces does not have any specific referent.

(2-2) c. What I want to marry is a medical doctor.

<sup>4</sup> It seems that a predicative noun phrase to be relativized must agree in number with its antecedent.

A career girl, which my fiancée doesn't happen to be, attracts me most.

?\* Career girls, which my fiancée doesn't happen to be, attract me most.

Career girls, which Tom's and Jim's fiancées don't happen to be, attract them most.

?? He often played around with blondes, which his wife was not.

Robin Lakoff has pointed out to me that predicative *which* cannot have a *definite* referential antecedent. Observe the following:

John married {a } model, which Mary also is.  
                  {\*the}

The defendant says that he robbed {a } brunette, which the witness is not.  
  {\*the}

What I wanted to meet was a platinum blonde.

(2-2c) are acceptable if the speaker does not have any specific medical doctor or platinum blonde in mind whom he wants to marry or wanted to meet, respectively. The sentences would be ungrammatical if he had specific persons in mind, as witnessed in the following examples:

- (2-2) d. \*What I want to marry is a medical doctor whom I met at the party yesterday.  
 \*What I wanted to meet was a platinum blonde whom John said that he had met at the party before.

What the above sentences show is that relative pronoun *what* is acceptable for representing human noun phrases except for those which have some specific referents in the universe of discourse. This generalization is based on the tentative hypothesis that predicative noun phrases do not have specific referents<sup>5</sup>—the hypothesis which I shall discuss fully in § 3.

§ 2. 3 Interrogative pronoun *what* is used in referring to predicative noun phrases denoting quality, while *who* is used primarily for referring to those which have specific reference, and secondarily for referring to predicative noun phrases.

- (2-3) a. What is he? {He is a doctor.  
   \*He is Mr. Jones.  
       b. Who is he? {He is Mr. Jones.  
   He is a doctor.  
       c. What is LBJ? He is the President of the United States.  
       d. Who is LBJ? He is the President of the United States.

A *doctor* in (2-3a) is a “property” noun phrase which does not have any reference, while *Mr. Jones* in (2-3b) is a noun phrase with specific reference to a human called Mr. Jones. Note that *the President of the United States*, even with a definite article, is a nonreferential predicative noun phrase in (2-3c), as is shown by the use of *what* in the question. It describes a property of LBJ, that is, being the President of the United States. The use of the definite article is due, not to any specific reference, but to the fact that there can be only one person who can occupy this position. (2-3d) is ambiguous. It either describes the property of LBJ, or equates LBJ with a person previously referred to as the President of the United States. In the latter sense, *the President of the United States* has a referent.

§ 2. 4 Compare the following two sentences.

- (2-4) a. Mr. Jones is my piano teacher.  
       b. My piano teacher is Mr. Jones.

I claim that *Mr. Jones* and *my piano teacher* in (2-4a) are referential and nonreferential, respectively, while they are both referential in (2-4b).<sup>6</sup> This claim can be proved by

<sup>5</sup> See Bach, E., “Nouns and noun phrases,” in Emmon Bach and Robert T. Harms (eds.), *Universals in Linguistic Theory*, Holt, Rinehart and Winston, Inc., New York, 1968.

<sup>6</sup> There is another reading of (2-4b), in which *my piano teacher* is non-referential and *Mr. Jones* is referential. This will be discussed in § 3.1.

the use of *who* and *which* in non-restrictive relative clauses in referring to *Mr. Jones* and *my piano teacher*. Paralleling the regularity noted in § 2. 2, *which* is used if a noun phrase is non-referential, and *who* if it is coreferential with a preceding noun phrase. This can be seen by observing the following sentences.

- (2-5) a. I met Mr. Jones, and *Mr. Jones* is my piano teacher. [referential]  
 b. I met Mr. Jones, *who* is my piano teacher.  
 c. \*I met Mr. Jones, *which* is my piano teacher.
- (2-6) a. Mr. Jones has been arrested by police for drunken driving, and my piano teacher happens to be *Mr. Jones*. [referential]  
 b. \*Mr. Jones, *who* my piano teacher happens to be, has been arrested by police for drunken driving.  
 c. \*Mr. Jones, *which* my piano teacher happens to be, has been arrested by police for drunken driving.
- (2-7) a. I met my piano teacher, and *my piano teacher* is Mr. Jones. [referential]  
 b. I met my piano teacher, *who* is Mr. Jones.  
 c. \*I met my piano teacher, *which* is Mr. Jones.
- (2-8) a. My piano teacher has been arrested by police for drunken driving, and Mr. Jones happens to be *my piano teacher*. [property]  
 b. \*My piano teacher, *who* Mr. Jones happens to be, has been arrested by police for drunken driving.  
 c. ?My piano teacher, *which* Mr. Jones happens to be, has been arrested by police for drunken driving.

In (2-5) and (2-6), the underlined *Mr. Jones* is a referential noun phrase, and therefore, the non-restrictive relative pronoun *who* is used. The use of *which* for *Mr. Jones* results in an ungrammatical sentence, as shown in (c). Similarly, the underlined *my piano teacher* in (2-8) is a non-referential "property" noun phrase, and therefore, *which*, and not *who*, is the relative pronoun used for the noun phrase.<sup>7</sup>

From the above discussions, it must be clear that the "NP<sub>1</sub>—Copula—NP<sub>2</sub>" construction is ambiguous if the second NP is one which allows a specific reference:

- (a) NP<sub>1</sub> has the properties of NP<sub>2</sub> (non-referential)  
 (b) What is referred to as NP<sub>1</sub> is the same as what has been referred to as NP<sub>2</sub> (referential)

I have also presented the theme that non-referential human noun phrases are replaced by *which* and *what*, while referential ones are replaced by *who*. The fact that *which* is used for non-referential noun phrases should be the same as the fact that *which* is used for adjectives in non-restrictive relative clauses.

- (2-9) a. John is foolish, *which* you are not.

<sup>7</sup> Awkwardness, if not ungrammaticality, of (2-8c) seems to be due to the fact that the antecedent of predicative *which* is a definite referential noun, i.e., *my piano teacher*. See footnote 4. Even if (2-8c) is ungrammatical to some speakers of English, my argument about referential and non-referential noun phrases should still hold since (2-8c) is better than (2-8b).

- b. John is a fool, which you are not.

No existing analysis of adjectives and predicative noun phrases, as far as I know, can provide a uniform treatment of this problem.<sup>8</sup>

§ 2. 5 Some non-referential noun phrases can enter into the imperative construction, and in that respect, display the same characteristics as those displayed by some adjectives.

- |                          |                      |
|--------------------------|----------------------|
| (2-10) a. *Be a girl.    | cf. *Be tall.        |
| b. Be a hero.            | Be cautious.         |
| c. *Don't be a girl.     | *Don't be tall.      |
| d. Don't be a hypocrite. | Don't be ridiculous. |
| e. *Be Johnson.          |                      |

Just as adjectives must be marked in the lexicon with respect to whether or not they designate a state attainable by self-control,<sup>9</sup> so must nouns be marked with respect to the same feature. In this respect, as with respect to the feature discussed at the end of § 2. 4, there is no distinctive difference between adjectives and property noun phrases. In passing, I should call to your attention the following interesting phenomenon about predicative noun phrases in the imperative mood.

- (2-11) a. \*Be a girl.  
 b. Be good.  
 c. Be ambitious.  
 d. Be cautious.  
 e. \*Be tall.
- (2-12) a. Be a good girl.

<sup>8</sup> The analysis of adjectives as noun phrases in deep structure proposed by Ross (Ross, J., "Adjectives as noun phrases," Massachusetts Institute of Technology, Cambridge, 1966 (unpublished)) would regard *which* of (2-9a) as derived from (it (you foolish)<sub>s</sub>)<sub>NP</sub> while regarding that of (2-9b) as derived from *a fool*, and therefore, fails to treat the two sentences in the same manner.

<sup>9</sup> [+self-controllable] is a semantic feature which is independent of [+active]. Both features play an important role in syntax. For example, roughly speaking, [+self-controllable] is required for forming imperative constructions, while [+active] is a deciding factor for progressive constructions. *Fall* and *encounter* are [+active], but [-self-controllable], and therefore,

The capsule is falling down closer and closer to the earth.

\*Fall down.

I am encountering great difficulties.

\*Encounter great difficulties.

*Sleep*, semantically, consists of two components: an act of falling asleep, and a state of being asleep. The former action is self-controllable, and, therefore, *sleep* as a whole is [+self-controllable]. On the other hand, *asleep* refers only to the state, and does not contain the "falling asleep" component. Therefore, *asleep* is [-self-controllable]. Similarly, *join* and *hide* each consists of two components, while *belong to* and *lurk* represent only the "state" component. Therefore, the former are [+self-controllable], while the latter are [-self-controllable]. Thus,

Join the Army.

Hide here.

\*Belong to the Army.

\*Lurk here.

There are many other constructions in which self-controllability plays a deciding role. For details, see Kuno, S., "Some types of semantic projection rules" (in preparation).

- b. \*Be a tall girl.
- c. Be a good, ambitious and cautious girl.
- d. \*Be a good, ambitious and cautious tall girl.<sup>10</sup>

(2-12) shows that *girl*, which is marked as [–self-controllable], as evidenced in (2-11a), can still be used in the imperative construction if it is preceded by one or more [+self-controllable] adjectives. It also shows that if there is a single occurrence of a [–self-controllable] adjective in the sequence, the sentence becomes ungrammatical. The above phenomenon would require a special type of a semantic projection rule that has not been discussed before:<sup>11</sup> one which assigns [+self-controllable] or [–self-controllable] to the topmost node NP on the basis of the markings of individual lexical entries in the NP. That is, the topmost NP receives the marker [+self-controllable] even if the head noun is [–self-controllable] providing that all the adjectives are [+self-controllable]. Otherwise, it receives [–self-controllable].

The above phenomenon is not restricted to the imperative construction. There are other structures in which [+self-controllable] non-referential noun phrases behave exactly like [+self-controllable] adjectives.

(2-13) I am being a good girl.

\*I am being a tall girl.

\*He is being Mr. Jones.

(2-14) I told her to be a good girl.

\*I told her to be a tall girl.

\*I told him to be Mr. Jones.

§ 2. 6 Non-referential property noun phrases can be relativized and form restrictive relative clauses. The antecedent is always non-referential and preceded by a definite article. It clearly shows the property of a non-referential property noun phrase: that is, it indicates a property, and not an individual object in the universe of discourse.

(2-15) a. I am not *the man that* I used to be.

<sup>10</sup> Robin Lakoff has pointed out to me that (2-12d) is grammatical if preceded by *Given that you're a tall girl*.

Given that you're a tall girl, be a good, ambitious and cautious tall girl.

In this sentence, *tall girl* behaves as if it were a single noun. Note that

Given that you're a tall girl, be a good, ambitious, cautious and tall girl.  
is ungrammatical because *tall girl* cannot form a constituent.

<sup>11</sup> McCawley has pointed out in his "The role of semantics in a grammar," in Bach and Harms (*op. cit.*), pp. 125-169, that there are deep structures which must be interpreted semantically before they can undergo transformations. For example, the deep structure corresponding to *My neighbor is buxom, and my neighbor is very attractive*, does not have the sex of *my neighbor* specified yet. However, before the pronominalization applies in the transformational component, *neighbor* must be specified as [+female]: otherwise, ungrammatical sentence *My neighbor is buxom, and he is very attractive* may result. McCawley proposed that the feature + [[+female]\_\_\_\_\_], which is assigned to *buxom* in the lexicon as a selectional restriction of the adjective, should be used not only as a means for disambiguation in the style of Katz and Fodor (Katz, J.J. and Fodor, J.A., "The structure of a semantic theory," *Language* 39, No. 2, 1963, pp. 170-210), but as a feature to be copied onto the subject noun phrase if the selectional restriction is satisfied by the latter. The same mechanism would operate to assign [+female] feature to the largest noun phrase of (*a neighbor who is buxom*). What is involved here is a simple copying of a feature from a lexical entry onto a higher-order node. The semantic rule which I have proposed for dealing with *a good boy, a tall boy, a good ambitious boy, a good tall boy*, etc., would require a more complex mechanism involving Boolean conditions.

- b. I am not *what* I used to be.
- c. Every boy has the beginning of *what* he is going to *become*.  
*The boy that he is* tells us *the man that he is* to *become*.
- d. \**The boy that he is* spoke to me in Korean.

§ 3. In this section, I will present a proof that property noun phrases after copulative verbs are non-referential.<sup>12</sup> This analysis is contrary to the one presented by some transformational grammarians in which "a doctor" of (3-1)

(3-1) John is *a doctor*.

has an arbitrary index *i* indicating that John is the *i*th member of the class of doctors.

§ 3. 1 The mechanism of indices for noun phrases was originally introduced for distinguishing between coreferential noun phrases and noun phrases of different references.<sup>13</sup> For example, without this mechanism

(3-2) a. John killed John.

b. John killed himself.

would both be derived from the same deep structure.

(3-3) a. John killed John.

while with this mechanism, one can claim that (3-2a) and (3-2b) are derived from (3-3b) and (3-3c) respectively.

(3-3) b. John<sub>i</sub> killed John<sub>j</sub>.

c. John<sub>i</sub> killed John<sub>i</sub>.

Above, noun phrases with the same index refer to the identical object in the universe of discourse, while those with different indices refer to different objects. Therefore, in (3-3b), two persons with the same name *John* are involved, while in (3-3c), only one person is involved.

Now, I assume, as an established fact, that coreferential noun phrases, if they are to be pronominalized, must be replaced by personal pronouns *he*, *she*, *it*, and *they*. Observe the following sentences.

(3-4) a. I met a policeman on the street. *The policeman* told me . . .

I met a policeman on the street. { *He* told me . . .  
 { \**One* told me . . .

b. John met a platinum blonde on the street, and Bill met *her*, too.  
 (the same platinum blonde)

John met a platinum blonde on the street, and Bill met *one*, too.  
 (no identity of reference established)

Now, if qualitative predicative noun phrases were referential, the two occurrences of "a doctor" and "the leader of the party" in (3-5) should receive the same index, respectively, because they "refer to" the same person. However, we do not get *him* as the surface representation of the second noun phrases. Instead, we have *one*, a pronoun

<sup>12</sup> See footnote 5.

<sup>13</sup> Chomsky, N., *Aspects of the Theory of Syntax*, M.I.T. Press, 1965, pp. 145-147.



which is used for replacing a non-coreferential noun phrase.

(3-5) a. John is *a doctor*<sub>i</sub>. John has been *a doctor*<sub>i</sub> ever since he graduated from medical school.

b. \*John is a doctor. John has been *him* ever since . . .

c. John is a doctor. John has been *one* ever since . . .

(3-6) a. LBJ is *the leader of the party*<sub>i</sub> and the President of the United States is *the leader of the party*<sub>i</sub>.

b. \*LBJ is the leader of the party and the President of the United States is *him*.

Referential noun phrases, on the other hand, are replaced by personal pronouns, even when they are in the predicate, if they are coreferential with preceding noun phrases. Observe the following telephone conversations.

(3-7) a. A. May I speak to *Mr. Jones*<sub>i</sub>? B. {This is *Mr. Jones*<sub>i</sub>.  
This is *him*.

b. A. May I speak to *the President of the United States*<sub>i</sub>?

B. {This is *the President of the United States*<sub>i</sub>.  
This is *him*.

c. A. May I speak to a professor in the Department of Linguistics?

B. {This is a professor in the Department of Linguistics.  
\*This is *him*.

(3-7c) is ungrammatical even if B knows that A has some specific professor in mind, and that is B himself.

Brian Sinclair has pointed out to me the following interesting facts. When a non-referential noun phrase describes a position that can be held by only one person, as in (3-6), neither *he* nor *one* can be used as a pronoun. What appears is neuter personal pronoun *it*.

(3-8) a. LBJ is the President of the United States.

He has been {*\*him*  
*\*one*  
*\*the one*  
*it*} since 1963.

b. John is the man who is married to Mary.

He has been {*\*him*  
*\*it*  
*\*one*} since 1960.

c. John is a doctor. He has been {*\*him*  
*\*it*  
*one*} since 1960.

Such a noun phrase, even when it is used as the subject of a sentence, is pronominalized by *it* when it describes the position, and not the person.

(3-9) a. The Speaker of the House is always an old man. {*It*  
*\*He*} has been McCormack since 1960.

- b. The leader of the party is Johnson.  $\left\{ \begin{array}{l} *He \\ *One \\ *The\ one \\ It \end{array} \right\}$  has been him since 1960.
- c. Who is the leader of the party?  $\left\{ \begin{array}{l} It \\ *He \end{array} \right\}$  is President Johnson.
- d. Who is the President of the United States?  $\left\{ \begin{array}{l} It \\ *He \end{array} \right\}$  is Mr. Johnson.
- e. My teacher is John.  $\left\{ \begin{array}{l} ?It \\ *He \end{array} \right\}$  has been him since 1960.
- f. Who is your teacher?  $\left\{ \begin{array}{l} ?It \\ *He \end{array} \right\}$  is Mr. Jones.
- g. Who is your favorite teacher?  $\left\{ \begin{array}{l} It \\ *He \end{array} \right\}$  is Mr. Jones.
- h. The leader of the party is incompetent.  $\left\{ \begin{array}{l} *It \\ He \end{array} \right\}$  has done nothing to unite the party.

(3-9e) is ungrammatical because *my teacher* is not a position which is limited to one occupant, unless it is understood from the context that it is. (3-9g) with *it* sounds much better than (3-9f): this seems to be due to the fact that *favorite* in (3-9g) usually delimits the scope of what can be referred to as *your teacher* to one. (3-9h) is ungrammatical because *the leader of the party*, which is the underlying subject of *has done nothing*, refers to a person, and not to a position. This accounts for the use of *which* in the following sentence.

(3-10) The leader of the party, *which* has been LBJ since 1963, is also the President of the United States.

§ 3. 2 Observe the following sentences:

(3-11) *A doctor*<sub>i</sub> came to see me. I could trust  $\left\{ \begin{array}{l} the\ doctor_i \\ him. \end{array} \right.$

(3-12) My brother is *a doctor*. I cannot trust  $\left\{ \begin{array}{l} *the\ doctor.^{14} \\ him. \end{array} \right.$

(3-11) shows that a noun phrase which is coreferential with a preceding noun phrase which has a referent can be definitivized. On the other hand, (3-12) shows that non-referential property noun phrase *a doctor* in the first sentence does not establish, linguistically, the presence of a doctor in the present universe of discourse. Hence, *the doctor*

<sup>14</sup> Observe, however, that

My brother is a doctor. I cannot trust *that doctor*.  
is grammatical. I do not believe that this *that doctor* has any syntactic relationship with the preceding *a doctor*. Rather, I think that this is an example of the use of nouns like pronouns, as in

My brother is a doctor. I cannot trust *that bastard / that man / that s.o.b.*, etc.  
This analysis is confirmed by the fact that *that doctor* in the above context has the same intonational pattern as *that bastard*, as pointed out to me by David Perlmutter.  
Note also that

<sup>15</sup> See Lakoff, G., "Pronouns and reference," Harvard University, Cambridge, 1968 (unpublished paper), for a hierarchy of noun phrases for anaphoric expressions.

may be, if it starts with *my brother is a doctor*, one cannot refer to the referent of *my brother* using *the doctor*.

(3-16) *My brother* is a doctor. He examines patients under the social welfare program . . . \**The doctor* tells us that . . .

(3-17) *A doctor* came to examine my child. He turned out to be a professor in the same college that I teach at . . . \**The professor* told me that he was so busy with teaching that he didn't have too much time left for his private practice.

However, it is possible to introduce a person as A and later refer to him as B if B is a subset of A.

(3-18) a. *A man* came to examine my child. He turned out to be a professor in the same college that I teach at . . . *The professor* said that . . .

b. *A doctor* came to examine my child, who had been coughing and not eating well. *The pediatrician* said that he had a flu.

§ 3. 4 If a qualitative noun phrase is non-referential, which I claim it must be, then how can we deal with a qualitative noun phrase modified by a relative clause?<sup>16</sup>

(3-19) He is a doctor that I can trust.

According to the ordinary analysis of relative clauses, a noun phrase which has the same index as that of the head noun should be the one which is to be relativized:

(3-20) a. He is *a doctor*<sub>i</sub> (the doctor<sub>j</sub> despises *the doctor*<sub>i</sub>)<sub>s</sub>

b. He is a doctor who the doctor despises.

However, my analysis claims that *a doctor* of *he is a doctor* does not have any reference, and therefore, should not be assigned an index. Before proposing a solution to this problem, I would establish that *a doctor that I can trust* in (3-19) is non-referential. The following examples will speak for themselves:

(3-21) a. He is a doctor that I can trust, *which* you are not.  
(which = a doctor that I can trust)

b. He is a doctor that I can trust. He has been *a doctor that I can trust* ever since I met him for the first time 20 years ago.

He is a doctor that I can trust. He has been  $\begin{Bmatrix} *him \\ one \end{Bmatrix}$  ever since . . .

Similarly, predicative noun phrases in the following sentences should also be regarded as non-referential.

(3-22) a. He is *the man who I can trust*.

<sup>16</sup> Karttunen (Karttunen, L., "What do referential indices refer to?" RAND Corporation Report P-3854, May 1968, p. 4) realizes this problem, and states the following, but leaves the problem untouched there.

"For example, it has been suggested (Bach 1967, p. 21) that indefinite predicate nominals should not have a referential marker, because they do not refer to an individual by themselves."

"There is a problem here, however, if referential indices play a role in the derivation of restrictive relative clauses. There are sentences, e.g., *He is a man whom I like*, with an indefinite predicate nominal which contains a restrictive relative clause."

- b. He is *the man who the people of the U.S. have elected as next President*.

The only reason that the predicative noun phrases in (3-22) have the definite article *the* is that there is only one person who satisfies the condition expressed by each noun phrase, contrary to the case in (3-19), in which there is more than one *doctor who I can trust*.

Note that a noun phrase in the relative clause to be relativized must have an index:

- (3-23) a. He is a doctor (*a doctor*<sub>i</sub> thinks that everyone should trust *a doctor*<sub>i</sub>)<sub>s</sub>

- b. He is a doctor *who* thinks that everyone should trust *him*.

- c. \*He is a doctor *who he* thinks that everyone should trust.

(3-23c) is ungrammatical if *he* refers to the antecedent of the relative clause. The ungrammaticality can be accounted for by Postal's cross-over principle<sup>17</sup> if the two occurrences of *a doctor* in the relative clause are coreferential and have the same index.

The problem of indexing that was raised at the beginning of this section, I think, is due to the fact that the mechanism of indices have been used in the generative grammar for dual purposes: first to mark coreferentiality, and second, to connect noun phrases with their referents.<sup>18</sup> There has been an implicit understanding that noun phrases which are coreferential must also be referential. That it is not necessarily so can be seen by numerous examples:

- (3-24) a. John wants to hire *a girl* and train *her* as his assistant.

- b. If she had *a brother*, I would have seen *him*.

- c. I imagined John marrying *a girl*. *She* was tall.

- d. \*I wanted to marry *a girl*. *She* was tall.<sup>19</sup>

Karttunen<sup>20</sup> tried to account for the grammaticality of (3-24a) by saying that the nonspecific indefinite noun phrase *a girl* has a referent which can be referred to by a pronoun or a definite description as long as one stays within the scope of the command-

<sup>17</sup> See Postal, P., "The cross-over principle: a study in the grammar of coreference," Thomas J. Watson Research Center, IBM, June 1968 (unpublished paper). The principle states that a noun phrase cannot be moved by a transformation in such a way that it passes over another noun phrase which has the same reference. For example, (3-23c) is ungrammatical since the last *the doctor*<sub>i</sub> has been preposed and transformed into the relative pronoun crossing over the coreferential noun phrase *the doctor*<sub>i</sub>.

<sup>18</sup> This dual use is not Chomsky's. Chomsky proposed in *Aspects (op. cit.)* that "referential expressions" be indexed a way relevant to the operation of certain syntactic rules, such as pronominalization and reflexivization, and that the rules that assign semantic interpretation to syntactic structures refer to identity of indices in determining sameness of intended reference, but he did not propose that reference be incorporated into syntax. See footnote 11 of Chomsky's "Deep structure, surface structure, and semantic interpretation" in this volume for discussion on this matter.

<sup>19</sup> (3-24d) would be grammatical if it were meant for "I wanted to marry a certain specific girl. She was tall."

<sup>20</sup> See Karttunen (*op. cit.*), p. 8. See also Lakoff, G., "Counterparts, or the problem of reference in transformational grammar," in D. Steinberg and L.A. Jakobovits (eds.), *Semantics: an Interdisciplinary Reading in Philosophy, Linguistics, Anthropology and Psychology*, University of Illinois Press (to appear). Lakoff argues that [-specific] noun phrases have referents in assumed universes, not the speaker's presupposed universe, of discourse.



- b. *A doctor<sub>i</sub> who believes that every patient loves him<sub>i</sub> came to see me.*  
 c. *\*A doctor<sub>i</sub> who he<sub>i</sub> believes that every patient loves came to see me.*  
 (3-27) a. *\*He is [a doctor<sub>i</sub> who he<sub>i</sub> believes that every patient loves]<sub>NP[property]</sub>*  
 b. *\*I need [a doctor<sub>i</sub> who he<sub>i</sub> believes that every patient loves]<sub>NP[non-specific]</sub>*

§ 4. Noun phrases can be, among others, either property noun phrases, noun phrases of non-specific reference, noun phrases of specific reference, or generic.<sup>22</sup> They will henceforth be referred to as [+qualitative], [−specific], [+specific], and [+generic], respectively. [+generic] is a noun phrase which refers to a class, and not to its individual members. [+specific] is a referential noun phrase for which the existence of its referent in the speaker's universe of discourse is presupposed. [−specific] is a non-referential noun phrase for which the existence of its referent in the universe of discourse of the speaker is not presupposed. Discussions on some properties of [+specific] and [−specific] noun phrases are found in Baker, Dean, Bach, and Lakoff.<sup>23</sup> Examples of these four classes of noun phrases are given below.

- (4-1) a. [+qualitative]  
           He is *a doctor*.           He became *a doctor*.  
 b. [+generic]  
           *A beaver builds dams. Beavers build dams. The beaver builds dams.*  
           I admire *doctors* (i.e., doctors in general).   *\*I admire a doctor.*  
           I don't trust *a politician*<sup>24</sup>.  
 c. [+specific]

This analysis can indeed account for the above phenomena and many others that are discussed in this paper, but has the following fatal drawback:

- a. *John was so self-destructive that John killed John.*

The second and the third occurrences of *John* in (a) are coreferential, and the first one is the antecedent of both, and therefore, according to Lakoff's hypothesis, the cross-over principle should not apply to them. Therefore, we should be able to obtain, as grammatical, sentences such as:

- b. *\*John was so self-destructive that he killed him.*  
 c. *\*John was so self-destructive that he was killed by himself.*

However, both (b) and (c) are ungrammatical in the intended meaning. Since I do not have an alternative solution to the problem for which his hypothesis was proposed, I will simply mention here that both Lakoff's contention and mine are speculative at present.

<sup>22</sup> I do not mean to say that noun phrases must be marked as [+generic], [+qualitative], [+specific] or [−specific] by features in the deep structure. These markers might be derived, as has been suggested by Bach (*op. cit.*), from distinct deep structure configurations. It is certain, though, that there is a stage in the derivation of sentences at which these noun phrases must be distinguished by the features.

<sup>23</sup> Baker, C.L., "Definiteness and indefiniteness in English," Master's Thesis, University of Illinois, 1966.

Dean, J., "Nonspecific noun phrases in English," in *Mathematical Linguistics Automatic Translation*, Report NSF-20, The Computation Laboratory, Harvard University, May 1968.

Bach, E. (*op. cit.*)

Karttunen, L. (*op. cit.*)

Lakoff, G., "Counterparts, or the problem of reference in transformational grammar" (*op. cit.*)





represent in the speaker's universe of discourse. This matter has already been discussed above in reference to (4-1d). Observe also the following sentences:

- (4-4) a. I met *a blonde* and a brunette [+specific]. *The blonde* was six feet tall.  
 b. John is *a doctor* [+qualitative]. \**The doctor* is a good friend of mine.  
 c. I need *a doctor* [-specific]. \**The doctor* is a specialist in obstetrics.

The following examples would clarify the difference between [+generic] and [-specific] noun phrases.

- (4-5) a. *An American* was expected to climb Mt. Everest in those days.  
 ([+generic], i.e., all Americans)  
 b. *An American* was expected to win the race.  
 ([-specific], i.e., one of the American athletes, although it is not known yet which one)<sup>25</sup>

In the remainder of this section, I will show how these noun phrases, i.e., [+qualitative], [+generic], [+specific], and [-specific] noun phrases, behave in conjoined sentences. The characteristics of their behaviors lend strong support to Howard's analysis of conjunction reductions.<sup>26</sup>

§ 4. 1 Based on various syntactic arguments which I cannot reproduce here, Howard hypothesizes three different transformations for what has hitherto been called conjunction reductions: they are, the *respectively*-transformation, the right-to-left conjunction reduction, and pronominal deletion.

The *respectively*-transformation, at each step of its operation, extracts the leftmost constituent of each conjunct, and forms a conjoined constituent out of these extracted constituents. For example, the application of this transformation to (4-6a) yields (4-6b).

- (4-6) a. [*John* studied and *Bill* played.]  
 b. (*John* and *Bill*) [studied and played] respectively.

Square brackets in (4-6b) show the remainder after the leftmost constituents are extracted by the *respectively*-transformation. In (4-6a), *John* and *Bill* are the leftmost constituents of the conjoined sentences, and the application of the *respectively*-transformation to (4-6a) produces a new conjoined constituent *John and Bill*, with the remainder of each conjoined sentence forming a conjoined constituent with the original *and*. Leftmost constituents to be extracted do not have to be identical, as shown in (4-6). Now, observe the following:

- (4-7) a. [*John* studied and *John* played]  
 b. (*John* and *John*) [studied and played]  
 c. *John* [studied and played]

As is shown above, when the two leftmost constituents that have been extracted are

<sup>25</sup> (4-5b), of course, has the second interpretation: some specific American was expected to win the race.

<sup>26</sup> Howard, I., "On plural nouns and conjunction reduction, respectively," Massachusetts Institute of Technology, Cambridge, January 1967 (unpublished paper).

identical both in form and reference, the two are collapsed into one. When the two are identical in form, but different in reference, one plural noun is formed, as shown in (4-8).

- (4-8) a. [*The boy<sub>i</sub> studied and the boy<sub>j</sub> played*]  
 b. (*The boy<sub>i</sub> and the boy<sub>j</sub>*) [studied and played] respectively.  
 c. *The boys* [studied and played] respectively.

The collapsing is not restricted to noun phrases. Observe the following.

- (4-9) a. [*John died in 1960 and Mary died in 1965*]  
 b. (John and Mary) [*died in 1960 and died in 1965*] respectively.  
 c. (John and Mary) (*died and died*) [in 1960 and in 1965] respectively.  
 d. (John and Mary) *died* [in 1960 and in 1965] respectively.

The *respectively*-transformation can apply to its own output. The following example shows successive applications of the transformation, with a grammatical sentence produced after each application. The process of collapsing identical phrases is omitted in (4-10).

- (4-10) a. [John invited Bill to come to his house and John invited Sam to come to his office]  
 b. J [invited B to come to his house & invited S to come to his office]  
 c. J invited [B to come to his house & S to come to his office]  
 d. J invited (B & S) [to come to his house & to come to his office]  
 e. J invited (B & S) to [come to his house & come to his office]  
 f. J invited (B & S) to come [to his house & to his office]  
 g. J invited (B & S) to come to [his house & his office]  
 h. J invited (B & S) to come to his [house & office]

The second type of conjunction reduction, i.e., the right-to-left conjunction reduction, works from right to left. It extracts the rightmost common constituent from conjoined sentences. For example, (4-11a) is transformed to (4-11b) by the application of this transformation.

- (4-11) a. [(John bought *the beer*) and (Harry drank *the beer*)]  
 b. [(John bought,) and (Harry drank,)] *the beer*.

It is obviously impossible to derive (4-11b) by the *respectively*-transformation because the left side of the sentence has not undergone reduction at all. Consequently, it is clear that a second rule, such as the one proposed here, is required. Howard notes that this transformation is subject to different constraints from those which the *respectively*-transformation is subject to.

The third type, which Howard calls pronominal deletion, is not strictly a conjunction reduction. He observes that in (4-12c), *John* seems to remain within the sentence *John peeled*.

- (4-12) a. John peeled, and John ate, the apple.  
 b. John peeled, and he ate, the apple.  
 c. John peeled, and ate, the apple

If (4-12c) had been derived from (4-12a) by an application of the *respectively*-transformation, *peeled, and ate*, of (4-12c) should form a constituent, which it does not seem to be. Therefore, Howard concludes that (4-12c) is derived by an optional deletion of the pronoun *he* in (4-12b).<sup>6</sup>

§ 4. 2 In this section, I will discuss some characteristics of noun phrases with respect to the *respectively*-transformation. First observe the following sentences:

- (4-13) a. John met a doctor<sub>i</sub> [+specific] and Bill met a doctor<sub>j</sub> [+specific].  
 b. (John and Bill) [met a doctor<sub>i</sub> and met a doctor<sub>j</sub>].  
 c. (John and Bill) (met and met) [a doctor<sub>i</sub> and a doctor<sub>j</sub>].  
 d. (John and Bill) met [a doctor<sub>i</sub> and a doctor<sub>j</sub>].  
 e. John and Bill met doctors.  
 f. ??John and Bill met a doctor.  
 g. John and Bill both met a doctor.

(4-13e) is, of course, ambiguous as to whether it is synonymous with (4-13a), or whether John met some doctors and Bill met some other doctors (or the same doctors), etc. Most people do not derive (4-13f) from (4-13a). To them, (4-13f) would mean only that John met a doctor and that Bill met the same doctor, too. However, with *both* inserted as in (4-13g), the singular *a doctor* can mean two different doctors, as well as the same doctor.

It is not quite clear when the collapsing of two singular [+specific] noun phrases of different indices can result in one singular noun phrase, and when it cannot. (4-13f) is a borderline case. (4-14b) and (4-15c) seem to be more acceptable than (4-13f) in the two-person interpretation.

- (4-14) a. Jane married a doctor<sub>i</sub> and Mary married a doctor<sub>j</sub>.  
 b. Jane and Mary married a doctor.  
 (4-15) a. John fired an assistant<sub>i</sub> and John hired an assistant<sub>j</sub>.  
 b. John [fired an assistant<sub>i</sub> and hired an assistant<sub>j</sub>]  
 c. John (fired and hired) an assistant.

However, the following sentences are unambiguous: one cannot assign the two-person interpretation to them.

- (4-16) a. John raped and robbed a girl.  
 b. John robbed and raped a girl.

Now, when two singular noun phrases to be extracted are the subjects of conjoined sentences, the plural noun phrase must result: there does not seem to be any exception to this rule, contrary to the non-subject cases.

- (4-17) a. An assistant<sub>i</sub> was fired, and an assistant<sub>j</sub> was hired.  
 b. \*An assistant [was fired and hired], respectively.  
 (4-18) a. An assistant<sub>i</sub> was hired, and an assistant<sub>j</sub> was hired.  
 b. \*An assistant was hired.

The following examples show how noun phrases of other types behave in *respectively*-transformation conjunctions.

- (4-19) a. John is *a doctor* [+qualitative] and Bill is *a doctor* [+qualitative].  
 b. \*John and Bill are a doctor.  
 c. John and Bill are doctors.
- (4-20) a. John expects Sam to become *a doctor* [+qualitative] and Bill expects Sam to become *a doctor* [+qualitative].  
 b. John and Bill expect Sam to become a doctor.  
 c. \*John and Bill expect Sam to become doctors.
- (4-21) a. Mary doesn't trust *a fat man* [+generic] and Jane doesn't trust *a fat man* [+generic].  
 b. Mary and Jane don't trust a fat man.<sup>27</sup>
- (4-22) a. John met *a doctor*<sub>1</sub> [+specific] and Bill met *a doctor*<sub>1</sub> [+specific].  
 b. John and Bill met a doctor.  
 c. \*John and Bill met doctors.
- (4-23) a. Mary wants to marry *a doctor* [-specific] and Jane wants to marry *a doctor* [-specific].  
 b. ?Mary and Jane want to marry a doctor.  
 c. Mary and Jane want to marry doctors.
- (4-24) a. John expects Mary to consult *a doctor* [-specific] and John expects Jane to consult *a doctor* [-specific].  
 b. John expects Mary and Jane to consult a doctor.  
 c. John expects Mary and Jane to consult doctors.
- (4-25) a. The marriage counselor expects the Balls to consult *a psychiatrist* [-specific] and the marriage counselor expects the Smiths to consult *a psychiatrist* [-specific].  
 b. The marriage counselor expects the Balls and the Smiths to consult a psychiatrist.  
 c. ?The marriage counselor expects the Balls and the Smiths to consult psychiatrists.
- (4-26) a. John expects Mary to marry *a doctor* [-specific] and Bill expects Mary to marry *a doctor* [-specific].  
 b. John and Bill expect Mary to marry a doctor.  
 c. \*John and Bill expect Mary to marry doctors.
- (4-19, 20) show that the grammatical number of [+qualitative] noun phrases may or may not change depending upon whether their semantic subjects are plural or singular.<sup>28</sup>

<sup>27</sup> I regard ?*Mary and Jane don't trust fat men* as being derived not from (4-21a), but from *Mary doesn't trust fat men and Jane doesn't trust fat men*.

<sup>28</sup> The marking of predicative noun phrases with respect to their number cannot be performed in any efficient way if only the surface structure can be looked at. A predicative noun phrase and its subject can be indefinitely apart:

- a. *John and Mary are doctors.*  
 b. *John and Mary are expected to become doctors.*  
 c. *John and Mary are said to be expected to become doctors.*

(4-21) shows that the grammatical number of [+generic] noun phrases does not change in the course of collapsing. (4-22) shows that [+specific] noun phrases with the same index are collapsed into one with the same grammatical number. (4-23~26) illustrate the complex and mysterious nature of [-specific] noun phrases with respect to the collapsing rule. None of the existing analyses of conjunction reductions provide a satisfactory formal solution to problems such as how to reject (4-26c) as ungrammatical while accepting (4-24c).<sup>29</sup>

I should call to your attention another baffling phenomenon concerning [+specific] and [-specific] noun phrases. Observe the following sentences:

Therefore, the number agreement rule must be applied when the predicative noun phrase is still immediately preceded by its subject with an intervening copula. Now, assume that (b) is derived from the deep structure shown in (d).

- d. Someone expects (John becomes a doctor)<sub>S</sub> and  
someone expects (Mary becomes a doctor)<sub>S</sub>.

Transformations apply cyclically, and therefore, by the time the topmost sentence is reached and the conjunction reduction transformation is ready to be applied, we would have obtained the following derived structure.

- e. Someone expects John to become a doctor and someone expects Mary to become a doctor  $\Rightarrow$   
John is expected to become a doctor and Mary is expected to become a doctor.

Now, the *respectively*-transformation applies to this structure, yielding

- f. John and Mary are expected to become (a doctor and a doctor).

Since the surface structure has lost the information that (*a doctor and a doctor*) has as its semantic subject *John and Mary*, a complex ad hoc mechanism would be required to change it to *doctors*. However, if (e) is derived, as Postal (Postal, P., "On coreferential complement subject deletion," Report RC2252, Thomas J. Watson Research Center, IBM, October 1968) proposes for an independent reason, in the following manner, then the number agreement can be taken care of in a more straightforward fashion.

- g. Someone expects John (John becomes a doctor) and someone expects Mary (Mary becomes a doctor)  $\Rightarrow$  (Equivalent NP Pronominalization)  $\Rightarrow$  Someone expects John (HE to become a doctor) and someone expects Mary (SHE to become a doctor)  $\Rightarrow$  John is expected HE to become a doctor and Mary is expected SHE to become a doctor  $\Rightarrow$  (*Respectively*-transformation)  $\Rightarrow$  John and Mary are expected (HE and SHE) to become (a doctor and a doctor)  $\Rightarrow$  John and Mary are expected (THEY) to become (a doctor and a doctor)  $\Rightarrow$  (Number Agreement)  $\Rightarrow$  John and Mary are expected THEY to become doctors  $\Rightarrow$  John and Mary are expected to become doctors.

In the above derivation, HE and SHE are pronouns obtained in the intermediate stage of derivations, but doomed to be deleted in surface sentences. Postal assumes the presence of such intermediate forms, for one thing, for formally stating the generalization that the subject noun phrase in the complement sentence is deletable only when it is pronominalizable under identity with the matrix sentence subject or the matrix sentence object, as the case may be. I am indebted to G. Lakoff for suggesting this analysis to me.

<sup>29</sup> That (4-24c) is grammatical while (4-26c) is not is semantically accountable for. In (4-24c), two events are expected: Mary's consulting a doctor and Jane's consulting a doctor. On the other hand, in (4-26c), only one event is expected; that is, Mary's marrying a doctor as expected by John and Mary's marrying a doctor as expected by Bill are regarded to be one and the same event. The handling of this problem may require a test similar to that suggested for handling the number agreement between the semantic subject and the predicative (see footnote 28). That is, it may be necessary to determine whether or not a predicate which contains ([-specific] NP and [-specific] NP) after an application of the *respectively*-transformation has as its subject conjoined non-identical noun phrases.

- (4-27) a. John expects Mary to marry *a doctor*<sub>i</sub> [+specific] and Bill expects Mary to marry *a doctor*<sub>j</sub> [+specific].  
 b. \*John and Bill expect Mary to marry *a doctor*.  
 c. \*John and Bill expect Mary to marry doctors.  
 d. \*John and Bill expect Mary to marry *a doctor* and *a doctor*, respectively.

Assume that John expects Mary to marry a certain specific doctor, and that Bill expects Mary to marry a certain specific doctor, but not the same doctor that John expects Mary to marry. (4-27a) seems to be a perfectly reasonable deep structure for representing this semantic content. However (4-27b, c, d) are all ungrammatical if they are meant for this interpretation. This shows that in this context, *a doctor*<sub>i</sub> and *a doctor*<sub>j</sub> can neither be collapsed into a singular noun, nor collapsed into a plural noun, nor remain as they are without collapsing. Compare the above with (4-28):

- (4-28) a. John expects Mary to meet a doctor<sub>i</sub> [+specific] and Bill expects Mary to meet a dentist<sub>j</sub> [+specific].  
 b. John and Bill expect Mary to meet a doctor and a dentist, respectively.

(4-28b) is perfectly grammatical. Therefore, it is clear that (4-27) cannot be solved simply by stating that two referential noun phrases cannot be conjoined if they are referential in two different universes of discourse (i.e., John's world and Bill's world in the above examples).

Noun phrases of different types cannot be extracted by the *respectively*-transformation. Observe the following sentences:

- (4-29) a. *A doctor* was looked for.  
 b. *A dentist* was looked for.  
 c. *A doctor and a dentist* were looked for.

(4-29a) is two-ways ambiguous. It means either that some specific doctor was looked for, or a doctor, any doctor available, was looked for. (4-29b) has the same ambiguity. One might expect that (4-29c), which is derived from (4-29a) and (4-29b) conjoined, is four-ways ambiguous. However, (4-29c) has only two readings: (a) some specific doctor and some specific dentist were looked for, and (b) a doctor and a dentist, i.e., any doctor available, and any dentist available, were looked for. This fact shows that *a doctor* [+specific] and *a dentist* [-specific] or *a doctor* [-specific] and *a dentist* [+specific] cannot be extracted to form a new conjoined construction via the *respectively*-transformation.

That only noun phrases of the same type can be conjoined by the *respectively*-transformation should account for the following phenomena, also. (4-30a) and (4-30b) are each two-ways ambiguous, but (4-30c), which is derived by conjoining (4-30a) and (4-30b), is only two-ways ambiguous.

- (4-30) a. Mary wants to marry *a doctor*.  
 b. Jane wants to marry *a doctor*.  
 c. Mary and Jane want to marry doctors.

This indicates that the *respectively*-transformation should not stop at (4-31c), but

should go one more step, extracting *a doctor* and *a doctor* leaving null strings as remainders of extraction.

- (4-31) a. [Mary wants to marry a doctor] and [Jane wants to marry a doctor].  
 b. (Mary and Jane) [wants to marry a doctor and wants to marry a doctor].  
 c. (Mary and Jane) want to marry [a doctor and a doctor].  
 d. (Mary and Jane) want to marry (a doctor and a doctor) [ $\phi$ ].  
 Collapsing: Mary and Jane want to marry doctors.

Similarly, (4-32c) is only two-ways ambiguous.

- (4-32) a. [John wants to meet a doctor and John wants to meet a dentist].  
 b. John [wants to meet a doctor and wants to meet a dentist].  
 c. John wants to meet [a doctor and a dentist].  
 d. John wants to meet (a doctor and a dentist) [ $\phi$ ].

Note how difficult it would be to deal with this problem in the framework of an ordinary formulation of a conjunction reduction rule which allows only extractions of common elements. Such a formulation would regard *doctors* of (4-31d) as a common element extracted by conjunction reduction, while regarding *a doctor and a dentist* of (4-32) as remainders of conjunction reduction. That is, it would be necessary to state that two noun phrases to be conjoined by a conjunction reduction must be of the same type twice in the grammar, once of common elements to be extracted, second for the remainders in case they come to form the (NP and NP) construction. Howard's formulation, on the other hand, allows us to deal with *doctors* and *a doctor and a dentist* of (4-31d) and (4-32d) as both subject to the same constraint, i.e., two elements to be extracted by the *respectively*-transformation must be of the same type regardless of whether they are identical in constituent structures or not.

§ 4.3 Noun phrases of different types can also be extracted as common elements from conjoined sentences via right-to-left conjunction reduction. Observe the following:

- (4-33) a. I am dating a doctor [+specific], and I will marry a doctor [-specific].  
 b. \*I am dating, and will marry, a doctor.<sup>30</sup>  
 (4-34) a. I have been impressed with a linguist [+specific] and want to marry a linguist [-specific].  
 b. \*I have been impressed with, and want to marry, a linguist.<sup>31</sup>  
 (4-35) a. Joan married a doctor [+specific] and Jane wanted to marry a doctor [-specific].  
 b. Joan married, and Jane wanted to marry, a doctor.  
 (4-36) a. I have been impressed with a doctor [+specific], and I want to become a

<sup>30</sup> (4-33b) would be grammatical if it were meant for I am dating *a doctor*<sub>1</sub> [+specific] and will marry *a doctor*<sub>1</sub> [+specific] i.e., "I am dating a certain doctor, and will marry him."

<sup>31</sup> (4-34b) would be grammatical if it meant "I have been impressed with a certain linguist, and want to marry him."

- doctor [+qualitative].
- b. \*I have been impressed with, and want to become, a doctor.
- (4-37) a. I have been impressed with a linguist, [+specific] and I admire linguists [+generic].
- b. \*I have been impressed with, and admire, a linguist.
- (4-38) a. I wanted to marry a doctor [-specific], and I did marry a doctor [+specific].
- b. I wanted to marry, and did marry, a doctor.<sup>32</sup>
- (4-39) a. Joan wanted to marry a witch [-specific], and Jane did marry a witch [+specific].
- b. Joan wanted to marry, and Jane did marry, a witch.
- (4-40) a. I want to marry a doctor [-specific] and I want also to become a doctor [+qualitative].
- b. I want to marry, and also become, a doctor.
- (4-41) a. I want to marry a rich man [-specific] but I don't trust a rich man [+generic].
- b. I want to marry, but don't trust, a rich man.
- (4-42) a. I wanted to become a doctor [+qualitative], and I consulted a doctor [+specific].
- b. I wanted to become, and consulted, a doctor.
- (4-43) a. I wanted to become a doctor [+qualitative], and I wanted also to marry a doctor [-specific].
- b. I wanted to become, and also marry, a doctor.
- (4-44) a. They want to become doctors [+qualitative], but they don't admire doctors [+generic].
- b. They want to become, but don't admire, doctors.
- (4-45) a. They admired doctors [+generic], and they married doctors [+specific].
- b. They admired, and married, doctors.
- (4-46) a. They admired doctors [+generic], and wanted to marry doctors [-specific].
- b. They admired, and wanted to marry, doctors.
- (4-47) a. They admired doctors [+generic], and wanted to become doctors [+qualitative].
- b. They admired, and wanted to become, doctors.

Note, first, that all these sentences involve the right-to-left conjunction reduction. The generalization seems to be that noun phrases of different classes can be extracted as common elements by the right-to-left conjunction reduction except when the first of a pair is [+specific], as witnessed by the ungrammaticality of (4-33~37).

The grammaticality of (4-38~47) shows that a right-to-left conjunction reduction is

<sup>32</sup> The sentence can also mean "I wanted to marry a certain doctor, and did marry him."



subject to constraints of a nature entirely different from that of a *respectively*-transformation, which can extract only noun phrases of the same type. Note also that when a common noun phrase is extracted by the right-to-left conjunction reduction, contrary to what happens in the case of *respectively*-transformation, the grammatical number of the noun phrase does not change, whether it is [+specific], [−specific], or [+qualitative].

§ 4. 4 Observe the following sentences.

- (4-48) a. *A doctor* was looked for.  
 b. *A doctor* was found dead in a neighboring town.  
 c. *A doctor* was looked for, and he was found dead in a neighboring town.  
 d. *A doctor* was looked for, and was found dead in a neighboring town.

(4-48d) is the result of the application of what Howard calls pronominal deletion, and not the result of the *respectively*-transformation. This can be shown by the fact that *a doctor* in (4-48d) is still a constituent of *a doctor was looked for*, and that it is not the case that *was looked for, and was found dead in a neighboring town* formed a constituent. Now, (4-48a) is ambiguous with respect to whether some specific doctor was looked for, or whether a doctor, any doctor available, was looked for. (4-48b) is unambiguously [+specific]. (4-48c), which is formed by conjoining (4-48a) and (4-48b), is unambiguous: it means only that some specific doctor was looked for, and he was found dead in a neighboring town. (4-48d) is also unambiguous, and is synonymous with (4-48c). The above fact appears to give support to Howard's analysis of deriving (4-48d) from (4-48c) by an application of pronominal deletion.

However, pronominal deletion is not as simple as may be implied by (4-48). Observe the following:

- (4-49) a. *A doctor* was looked for. [+specific] and [−specific]  
 b. *A doctor* was found in a neighboring town. [+specific]  
 c. *A doctor* was looked for, and was found in a neighboring town.

(4-49c) is ambiguous: either it means that some specific doctor was looked for, and he was found in a neighboring town, or that a doctor, any doctor available, was looked for, and one was found in a neighboring town. However, it is not possible to derive (4-49c) from (4-49d) because the latter is not ambiguous at all:

- (4-49) d. *A doctor* was looked for, and *he* was found in a neighboring town.

This sentence means only that some specific doctor was looked for, and he was found in a neighboring town. Therefore, we must say that (4-49c) is derived by the deletion of the second *a doctor* after conjoining (4-49a) and (4-49b), and not by the application of pronominal deletion to (4-49d). I will call this process *repeated subject deletion*. What the above example shows is that repeated subject deletion can be applied not only to a pair of noun phrases of the same type, but also to the [−specific]—[+specific] sequence. It seems, as a matter of fact, that this is the only possibility of deleting a subject of a different type, as witnessed by the following examples:

- (4-50) a. *An American* was expected to climb Mt. Everest in those days. ([+generic],

i.e., all Americans)

- b. *An American* was killed in the attempt. [+specific]
- c. \**An American* was expected to climb Mt. Everest in those days, and was killed in the attempt.

(4-50c) is ungrammatical if it were meant as the conjunction of (4-50a) and (4-50b).<sup>33</sup> One would have to say, for the intended meaning.

- (4-50) d. *An American* was expected to climb Mt. Everest in those days, and *one* was killed in the attempt.

Observe, in passing, that (4-49c) becomes unambiguous if it is pronounced with the intonation represented in (4-51).

- (4-51) A doctor (was looked for, and was found in a neighboring town).

(4-51) means only that one specific doctor was looked for, and he was found in a neighboring town. This fact is predictable because only the *respectively*-transformation produces the constituent structure shown in (4-51). Since the *respectively*-transformation can conjoin only noun phrases of the same type, only the [+specific] interpretation results for (4-51). On the other hand, (4-49c), pronounced with the intonation (4-43) (A doctor was looked for,) and (was found in a neighboring town) is ambiguous because repeated subject deletion, which is responsible for this constituent structure, allows the deletion of the second subject both for the [+specific]—[+specific] sequence and the [−specific]—[+specific] sequence.

The following examples show that it is not the case that repeated subject deletion is applicable to any [−specific]—[+specific]:

- (4-52) a. *An American* was expected to win the race. [+specific] and [−specific]
- b. *An American* was barred from the race. [+specific]
- c. *An American* was expected to win the race, and was barred from the race. [+specific]
- (4-53) a. *An American* was expected to win the race. [+specific] and [−specific]
- b. *An American* did win the race. [+specific]
- c. An American was expected to win the race, and did win the race. [−specific]—[+specific] and [+specific]—[+specific].

(4-52c) is unambiguous, while (4-53c) is ambiguous. Observe that both for (4-49c) and (4-53c), in which the [−specific] interpretation is allowable, the second conjunct fulfills the expectation represented by the first conjunct, while it is not the case for (4-48d) and (4-52c), which do not allow the [−specific] interpretation. In other words, for (4-49c) and (4-53c), what used to be a non-specific person in the first conjunct becomes specific by virtue of an action or an event represented in the second conjunct. For example, before the search, no one knew whether they would find a doctor at all, but by virtue of the fact that they located a doctor, his existence came to be

<sup>33</sup> For some mysterious reason, if the second conjunct were meant for the generic Americans (i.e., all Americans), (4-50c) would still be ungrammatical; one would have to say:

?An American was expected to climb Mt. Everest in those days, and they were killed in the attempt.

presupposed. Similarly, before the race, no one knew who was going to win the race, although they expected that it would be one of the American athletes, but after the race, the existence of an American has become specific. Note that this is not the case for (4-48d) and (4-52c). For (4-52c), the fact that a certain American athlete was barred from the race did not specify who won the race, and therefore, the existence of an American who might win the race still remains non-specific.

It seems that whether the second conjunct alters the nonspecificity of a person in the first conjunct is a highly semantic matter, and cannot be based on partial identities of constituent structures in the two conjuncts as might be suggested by observing (4-48~53). (4-54) shows that *come in first* makes a nonspecific person specific, while *come in second* does not.

- (4-54) a. An American was expected to win the race, and did come in first. (ambiguous)
- b. An American was expected to win the race, {and did come in second.  
but came in second.  
(unambiguous: only the [+specific] interpretation)
- c. An American was expected to win the race, but was disqualified.  
(unambiguous: only the [+specific] interpretation)<sup>34</sup>

I have shown above that three types of conjunction reduction, i.e., the *respectively*-transformation, the right-to-left conjunction reduction, and repeated subject deletion, are subject to different constraints with respect to the types of noun phrases involved. The *respectively*-transformation can conjoin only noun phrases of the same type. The right-to-left conjunction reduction can regard as common elements any sequence of [+generic], [+qualitative], [+specific] and [-specific], except for those whose first arguments are [+specific]. On the other hand, repeated subject deletion can apply to sequences of the same type, or to [-specific]-[+specific] sequences, but to no other sequence types.

HARVARD UNIVERSITY, U. S. A.

<sup>34</sup> Note that the [-specific] version of these sentences without conjunction reductions is extremely awkward, if not ungrammatical.

(4-48) e. \*?A doctor [-specific] was looked for, and a doctor was found dead in a neighboring town.

(4-49) d. A doctor [-specific] was looked for and a doctor was found in a neighboring town.

(4-52) d. \*?An American [-specific] was expected to win the race, and an American was barred from the race.

(4-53) d. An American [-specific] was expected to win the race, and an American did win the race.

(4-54) d. \*?An American [-specific] was expected to win the race,  
{and an American did come in second.  
but an American came in second.

The first and the second conjuncts in each of (4-48e, 52d, 54d) do not form a tight continuous discourse, and this seems to be the reason for their awkwardness. However, it is not impossible to assign the [-specific] interpretation to these sentences, while it is impossible to do so to the version which has the conjunction reduction, i.e., (4-48d, 52c, 54c).

# THE SOCIOCULTURAL INTERPRETATION OF DIALECT AREAS

HANS KURATH

## I

The sampling survey of the Eastern United States (1931-48) in accordance with the method described in H. Kurath and B. Bloch, *Handbook of the Linguistic Geography of New England* (1939), pp. 39-55, has provided the evidence for establishing the regional and the social dissemination of phonological, morphological, and lexical variants in the English spoken in the oldest section of this country. The behavior of the heteroglossic lines, their bundling in certain areas and not in others, has furnished the basis for dividing the total area into a Northern, a Midland, and a Southern section, and of subdividing them.

When the dialectal structure of the total area surveyed by direct observation in the field has been worked out—a procedure that involves not only a count of the coalescing heteroglosses that form the dialect boundaries, but also their evaluation from the structural point of view—the stage is set for attempting an interpretation of the areal structure in sociocultural terms.

The procedure consists essentially in searching for congruences of the dialect areas with natural provinces, settlement areas, political domains, the location of cultural centers, trade areas, and transportation systems. These are the factors that control communication on which the creation of relatively uniform speech areas and their boundaries depends. Since all human institutions are constantly in flux—political domains expanding or shrinking, transportation systems changing, cultural centers shifting—congruences between linguistic and extra-linguistic domains of the present and the past are often hard to discover. And yet, there is no other way of establishing the sociocultural dynamics that underlies the formation of dialect areas.

In the United States, the chief forces that have shaped the major dialect areas along the Atlantic seaboard can be rather reliably traced now that the evidence secured by a systematic sampling survey is available, though published only in part. For one thing, only 350 years have elapsed since English settlements were planted on this side of the Atlantic; for another, the history of the population and its sociocultural institutions are rather well known. One is not faced with the task of delving into the remote past, fascinating as such an enterprise may be.

The following sketch presents as briefly as possible the historical interpretation of one of the dialect areas of the Eastern United States.

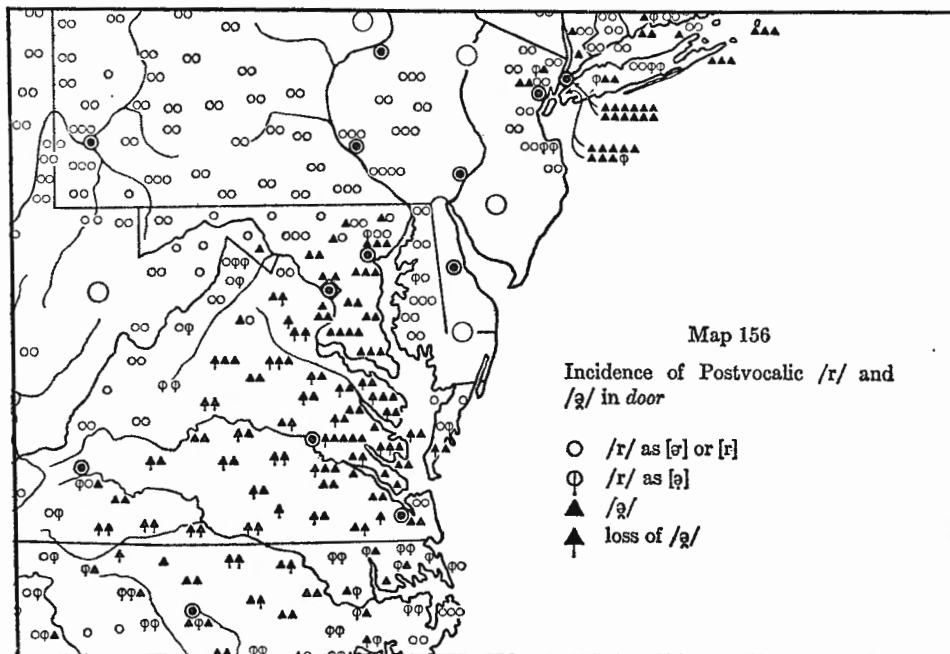
## II

The Upper South, focussed on eastern Virginia, constitutes a rather well defined subdivision of the Southern dialect area. Its northern boundary runs in an arc from the Atlantic Ocean through Delaware (north of Dover) and Maryland (north of Baltimore) to the Blue Ridge Mountains in Virginia. From there the dividing line follows the Blue Ridge southwestward to the upper reaches of the Roanoke River. To the north of this boundary lies the North Midland area, to the west of it the South Midland area. The southern limit of this area is less clearly defined. It has the character of a transition belt formed by spaced heteroglosses, some of which dip into north-central North Carolina, while others follow the tidal inlet of the James River.

Here we shall deal only with the northern and the western periphery of this subarea of the South.

Some of the lexical features that characterize the Upper South are presented in H. Kurath, *A Word Geography of the Eastern United States* (1949), maps 29, 31, 32, 33. Phonological features peculiar to this area will be found in H. Kurath and R. I. McDavid, Jr., *The Pronunciation of English in the Atlantic States* (1961), maps 27, 29, 50, 84, 107, 156, 163. A cut-out of map 156, showing the loss of post-vocalic /r/ as such, is reproduced below.

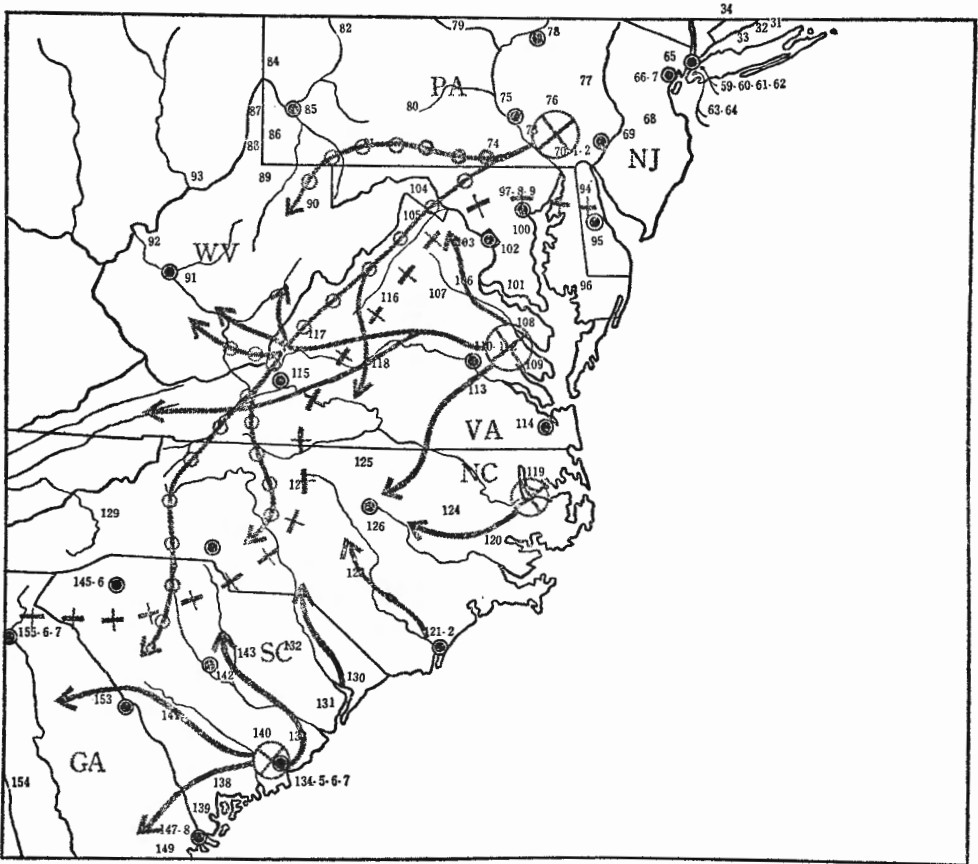
Figure 1



The search for extra-linguistic factors that might be responsible for the prominent dialect boundary that sets the Upper South off from the Midland reveals immediately that there is no congruence whatever with major political boundaries, i.e. with state lines: the linguistic boundary cuts right through Delaware, Maryland, and Virginia. Secondly, though this boundary rests upon the Blue Ridge Mountains in Virginia, which rise steeply out of the coastal plain to form a rather formidable natural barrier to communication, it runs right through the coastal plain in Maryland and Delaware.

An investigation of the settlement history, the character of the economy, and the

Figure 2



SETTLEMENT HISTORY

- ← Inland expansion from the Atlantic coast
- ←○←○←○ Southward expansion from Pennsylvania
- + + + + The boundary between the Southern and the Midland dialect areas

social organization of the Upper South readily leads to the discovery of forces that have shaped this dialect area.

The Upper South was settled by gradual expansion from the colonies planted on Chesapeake Bay in the seventeenth century. These movements up the river valleys were controlled to a large extent by the plantation aristocracy engaged in the cultivation of tobacco for the European market. As the fertility of the 'old fields' became exhausted, new land suitable for growing this staple was cleared. The heart of this plantation country is strikingly reflected in the concentration of Negro slaves in the Piedmont of Virginia from 1790 to 1860.

From the colonial seaports of this area—Richmond on the James River, Fredericksburg on the Rappahannock, and Alexandria on the Potomac—the tobacco was shipped to England, and in return manufactured goods were imported. The common interests of the dominant plantation aristocracy consolidated the area both economically and socioculturally. The linguistic integration of this area clearly emerged from this situation.

The areas north and west of the Upper South were settled largely from, or by way of, Pennsylvania. Northern Maryland and the Valley of Virginia (west of the Blue Ridge) never were plantation country. The settlers, many of them Ulster Scots and Germans, engaged in general farming; wheat fields and orchards characterized the landscape. In Virginia, the conflicting economic interests between the coastal plain and the Valley of Virginia (and consequently the divergent attitudes toward slavery) created a regional antagonism that tended to keep the two dialect areas apart.

In Figure 2 the settlement paths of the South and of the South Midland and the dialect boundary separating them, are presented schematically.

Although set off from the Midland dialect area by a well defined boundary, especially in its northern sector, the Upper South is still rather far from uniform in its linguistic usage. The Eastern Shore of Chesapeake Bay has preserved a considerable number of old local features. Even the points of land between the tidal inlets of the rivers on the western shore have not yet been brought fully into line with the dominant focal area of the Upper South—the piedmont of Virginia. Diffusion from this center is still in progress, as evidenced by the social dissemination of variants on its periphery.

UNIVERSITY OF MICHIGAN, U. S. A.

# SOME REMARKS ON ENGLISH MANNER ADVERBIALS

S.-Y. KURODA

## 1. Introduction

The claim that “for the most part, adverbs do not, properly speaking, constitute a category of deep structure” can be traced back as far as the Port-Royal grammar.<sup>1,2</sup> More recently, Katz and Postal (1964: 141) made the specific claim about English manner adverbials that they are derived from the form

- (1) in + Determiner + Adjective + manner (or way).

Thus, the sentence:

- (2) John disappeared elegantly.

would be derived from the sentence:

- (3) John disappeared in an elegant manner.

by means of the rule:

- (4) in + a + Adjective + manner → Adjective + ly.

This rule, however, may not be applied to all manner adverbial phrases of the form (1).

Take, for example, the sentence:

- (5) John disappeared in an unbelievable manner.

This cannot be paraphrased by:

- (6) \*John disappeared unbelievably.

The adverb *unbelievably* may, however, be used as the so-called sentential adverb. We have:

- (7) Unbelievably John disappeared.

(7) does not paraphrase (5). In general the manner adverbial phrase (1) is not reduced to a manner adverb if the corresponding adverb form of the adjective contained in it can be used as a sentential adverb.<sup>3</sup>

---

<sup>1</sup> This work was done partly at the Mathematical Linguistics and Automatic Translation Project, The Computation Laboratory, Harvard University, and supported in part by National Science Foundation. I would like to express my gratitude to G. Lakoff, R. Langacker, M. Langdon, J. Ross, and S. Schane for their valuable comments.

<sup>2</sup> See Chomsky (1966), p. 42, p. 45f.

<sup>3</sup> I do not intend to characterize how ‘sentence adverb’ should be understood in the entire English grammar. In what follows, by sentential adverbs we understand only those like *unbelievable* that can be paraphrased by means of sentences like (21) and (22) below. Besides those adverbs there is a group of adverbs that may reasonably be called sentential adverbs and may be confused with those



Another type of manner adverbial is added for our consideration.

Take the sentence:

(8) John disappeared happily.

If all manner adverbials are assumed to be accounted for by rule (4), (8) must be derived from:

(9) John disappeared in a happy manner.

There is, however, little uniformity in the reports on acceptability of the form *in a happy manner* by native speakers of English (American and British).<sup>4</sup> It would be fair to say that, overall, (8) is perfectly grammatical, while the grammatical status of (9) is more or less challengeable.

But the difference between the pairs (2) and (3) on the one hand and (8) and (9) on the other does not end with degree of acceptability. Compare the nominal expressions *elegant manner* and *happy manner*. In the former the relation between the adjective *elegant* and the noun *manner* may be understood as an instance of the general modifier-noun relation, that is to say, *the manner* can be *elegant* just as, *the dress* is *elegant*, and the noun phrase *elegant manner* must be derived from the relative expression *manner which is elegant*; (3) is thus traced back to something like:

(10) John disappeared in a manner which was elegant.

Not so for *happy manner*. The adjective *happy* may predicate only humans, and *the manner* cannot be *happy* as, say, *the girl* is *happy*. While (10) is perhaps a passable speech form and certainly a grammatical sentence, the form:

---

above which are our present concern. Take, for example,

(A) Cleverly, John disappeared.

This sentence cannot be paraphrased by

(B) It is clever that John disappeared.

Semantically, *clever* is to be attributed to *John*, not to the preposition *that John disappeared*. Note that *cleverly* in (A) must have a different source from manner adverbial *cleverly* as in

(C) John disappeared cleverly.

Incidentally, the subject of a sentence with the sentential adverbial *cleverly* seems to have to be definite, while the subject of a sentence with the manner adverbial *cleverly* may either be definite or indefinite; thus,

(D) ?Cleverly, a boy is loading a Honda on the top of a Volkswagen.

is questionable, while

(E) A boy is loading a Honda on the top of a Volkswagen cleverly.

is grammatical. In this connection, see also footnote 5.

<sup>4</sup> Many informants rejected the form *in a happy manner*, and some others accepted it with much reluctance. According to a colleague of mine, it can only be forced to be accepted. The reader may well question the advisability of my including this form in the present discussion. But, for one thing, it is also a fact that two informants of mine accepted it as readily as the adverbial form *happily*. (Both of them happen to be British.) Further, the fact that informants accept some form with more or less reluctance does not by itself disqualify that form for inclusion in the data. There would be many causes for some forms to be considered less acceptable. The linguist can make claims about the nature of unacceptability of such forms. It is not whether a linguist uses challengeable forms in his discussion, but how he uses them, that must count. Incidentally, the form *in a reluctant manner*, which must belong to the same category as *in a happy manner*, is more acceptable than the latter for many speakers.

(11) \*John disappeared in a manner which was happy.

is not. Note, furthermore, that:

(12) The manner in which John disappeared was elegant.  
is grammatical, but

(13) \*The manner in which John disappeared was happy.  
is not.

Now, *happily* in (8), as a manner adverbial, is one which is subcategorized with respect to the subject. For such manner adverbials, it has been argued that they are derived from adjectives used predicatively in a higher sentence (Lakoff, 1965).<sup>5</sup> Thus, (8) would be related to a sentence like:

(14) John was happy to disappear.

Then, perhaps the form something like:

(15) John was happy (John disappeared).

would be assumed as the common base of (8) and (14).

Returning to (5), let us note that the form:

(16) The manner in which John disappeared was unbelievable.

is grammatical. Then,

(17) John disappeared in a manner which was unbelievable.

would perhaps be assumed as the source of (5). Let us recapitulate what we have observed above.

Case (A):

(3) John disappeared in an elegant manner.

<sup>5</sup> I believe that Lakoff's analysis is basically right, although there is a problem left open in connection with the definiteness of the subject governing the type of manner adverb in question. Thus, as mentioned in footnote 3, one may say,

(A) A boy is loading a Honda on the top of a Volkswagen cleverly.

But the grammaticality of

(B) ?A boy is clever in loading a Honda on the top of a Volkswagen.

is doubtful. In general, an adjectival sentence may not take an indefinite *specific* noun as its subject, unless the predicate adjective is meant to describe a temporary and not inherent feature of the subject. (For this point, see Bollinger (1967)) Even this condition is not a sufficient condition for the subject of an adjective to be an indefinite specific. Thus, although in the intended reading of (B) the adjective *clever* is supposed to refer to a temporary feature of a boy connected with his specific action of loading Honda, (B) does not seem to be grammatical. One may also refuse to take (B) as the source of (A). To surmount this difficulty within the general framework of Lakoff's analysis one may still say that (B) is grammatical as a base form which is obligatorily converted into (A). An alternative solution would be to relate (A) to:

(C) A boy is loading a Honda on the top of a Volkswagen and he is doing so cleverly.

which would be derived from

(D) A boy is loading a Honda on the top of a Volkswagen and the boy is clever in loading a Honda on the top of a Volkswagen.

This analysis, however, converts our problem into the problem of whether or not co-referential nouns in coordinated sentences (e.g. *a boy* and *the boy* in (D)) must be assumed to have the same definiteness in the base form. R. Langacker once suggested to me the possibility that coordinated sentence structure is the source of an instrumental adverbial. The alternative may be examined in connection with his suggestion.

has the base form something like:

- (18) John disappeared in a manner (the manner was elegant).

From this the relativization transformation yields:

- (10) John disappeared in a manner which was elegant.

The relative clause reduction transformation derives (3) from this. From (3) is derived, by optional application of (4):

- (2) John disappeared elegantly.

Case (B):

- (5) John disappeared in an unbelievable manner.

would have a base form similar to (18):

- (19) John disappeared in a manner (the manner was unbelievable).

The relativization transformation applied to this yields

- (17) John disappeared in a manner which was unbelievable.

The relative clause reduction transformation derives (5) from this. For this category of adjectives rule (4) may not be applied, so that

- (6) \*John disappeared unbelievably.

may not be obtained.

Case (C):

- (9) John disappeared in a happy manner.

has the base form something like:

- (20) John was happy (John disappeared).

From this by a transformation, let us call it the adverb formation rule, one obtains (9). Then, (4) applies to (9) to derive:

- (8) John disappeared happily.

With this analysis one must add that the application of (4) to (9) is obligatory for some speakers, and the degree of obligatoriness may differ from speaker to speaker, and even from adjective to adjective of this category for one speaker.

All told, rule (4) applies elegantly only for case (A).<sup>6</sup> Concerning cases (B) and (C) one may feel unsatisfied with the analysis presented above. It is not so much because rule (4) is subjected to restrictions. There are other reasons. For one thing, the analysis does not relate in any way the facts that the adverb *unbelievably* cannot be used as a manner adverbial, and that it can be used as a sentential adverb. One may of course say that, since *unbelievably* can be used as a sentential adverb, rule (4) is prevented from generating the same adverbial form to avoid the possible ambiguity. But this explanation does not yield to formal expression in the proposed analysis. For another

<sup>6</sup> By presenting this analysis, I do not necessarily wish to imply that Katz and Postal (1964) would hold to this analysis. They did not clearly specify just what they meant by manner adverbials of the form Adjective+*ly* when they claimed that they are derived from the form *in*+Determiner+Adjective+*manner*. The context of their discussion may allow one to assume that adverbials like *unbelievably* and *happily* are excluded. But, on the other hand, there does not seem to be any explicit statement which disallows one to assume that they did not intend to treat such adverbials separately.

thing, the fact that the more challengeable form *in a happy manner* is taken as more basic than the less challengeable *happily* may, if taken by itself, cause some apprehension. Indeed, for the speaker who entirely rejects the form *in a happy manner*, the derivation of *happily* that goes through it would appear specious; the adverb formation rule may be formulated in such a way that the adverb form *happily* is directly derived from the adjective form *happy*. These arguments do not of course by themselves have enough power to lead the above analysis to immediate rejection. But at least they may give enough motivation for submitting the whole phenomenon to further scrutiny.

In what follows I shall first reexamine cases (B) and (C). Then, I shall return to the apparently straightforward case (A). Our conclusion will be to discard rule (4) altogether.

## 2. Adverbs like *unbelievably*

Let us begin our reexamination with sentential adverbs like *unbelievably*. (7) is paraphrased by

(21) It is unbelievable that John disappeared.

or by

(22) That John disappeared is unbelievable.

In fact, forms like (22) have long been assumed, formally or informally, to be the source of sentential adverbs. Now, those adjectives that may appear in such forms, like *unbelievable*, are not like such adjectives as *elegant* and *happy* in that they do not predicate nouns denoting concrete objects like *dress* and *girl* but generally only those abstract and complex notions that involve sentential propositions in their meaning.<sup>7</sup>

<sup>7</sup> In fact, most of the adjectives of this type are morphologically related to verbs and syntactically may be derived from verbal expressions of some form or other. Then, the subject to be predicated by those adjectives can be traced back to the sentential complement of the corresponding verbal expressions. Thus, *unbelievable* in (22) may be assumed to be derived from *cannot believe* in:

(A) One cannot believe that John disappeared.

The subject of (22) is the object complement of *believe* in this sentence. But for our purposes it is irrelevant to trace (22) syntactically back to this sentence.

However, it is not exactly true that verbs like *believe* take only sentential complements as their objects (and adjectives like *unbelievable* take only those as their subjects). One may say, for example,

(B) Bill cannot believe the story.

(C) Bill cannot believe what John told him.

Yet semantically such object noun phrases refer to assertions or judgements. Indeed, the syntactic characterization of the possible object of *believe* cannot be attained within the so-called simple sentence; compare:

(D) \*Bill cannot believe what John forced Tom to buy.

(E) Bill cannot believe what John forced Tom to tell.

John Ross suggested (personal communication) that *believe* may be followed always by *to be true*, which is later deleted optionally. If so, (B) and (E) are to be derived from

(F) Bill cannot believe the story to be true.

(G) Bill cannot believe to be true what John forced Tom to tell.

This analysis would allow one to say that the object of *believe* is always a sentence. The essential problem of selectional restriction, however, still remains, as a restriction between the predicate *to be true* and its subject. The embedded nature, so to speak, of selectional restriction has already been

This observation on the difference in the predicative nature of the adjectives of the type *unbelievable* and those of the types *elegant* and *happy* would lead one back to the forms (12), (13), and (16) for reexamination. In these forms the adjectives *elegant*, *happy*, and *unbelievable* are apparently supposed to predicate the subject *manner*. Then it is quite natural to expect that (13) results in ungrammaticality, since *happy* is to be attributed only to human subjects. In other words, grammatically speaking, (13) would be ungrammatical just as, say,

(23) \*The dress is happy.

is ungrammatical, as opposed to

(24) The dress is elegant.

On the other hand, perhaps one may not wish to talk about a natural expectation one way or another as to whether adjectives like *elegant* and *unbelievable* may or may not predicate such a highly abstract noun as *manner*. But if it were the case that *elegant* could not predicate *manner*, some mark would become necessary to distinguish syntactically between *manner* and say, *dress*; the fact is that *manner* is predicated by *elegant* in the grammatical sentence (12). Similarly, *manner* is apparently predicated by *unbelievable* in (16); but in this case the grammaticality of (16) would rather complicate the overall situation, since the noun *manner* does not involve a sentential proposition in its meaning.<sup>8</sup> This observation would lead one to rethink the status of (16) in the grammar. Despite the similar appearance of (12) and (16) some essential difference may be concealed.

We are now working on the hypothesis that (12) and (16) have different underlying structures. Yet the similarity of (12) and (16) still remains and the analysis of the structure of (12) would be relevant for our purposes. (12) is a sentence with a relative clause and its base form may be assumed to be:

(25) The manner (John disappeared in some manner) was elegant.

Note that (12) may be paraphrased by a pair of sentences:

(26. 1) John disappeared in some manner.

(26. 2) That manner was elegant.

Note further that if one embeds (26. 2) into (26. 1), one obtains (3).<sup>9</sup>

Given this paraphrase of (12), the following paraphrase of (16) would naturally come to one's mind:

---

remarked on in this form in Bach (1968); according to Bach the remark originated from comments made by G. Lakoff and J. Ross.

<sup>8</sup> Or, perhaps one may say *manner* is not derived by nominalization transformations from an underlying sentence.

<sup>9</sup> This explanation of the relation between discourses like (26) and pairs of complex sentences with a relative clause like (3) and (25) is made to look simple but may be misleading. The way different determiners are assigned to two coreferential occurrences of the same noun in the matrix and constituent sentences with respect to which relativization takes place is the same as the way the determiners are assigned to the coreferential occurrences of the noun in the corresponding discourse paraphrase. But I do not contend that such discourses themselves are base forms, in the technical sense, of complex

(27. 1) John disappeared in some manner.

(27. 2) That John disappeared in that manner is unbelievable.

In (27. 2) *unbelievable* does not predicate the noun *manner*, but the nominalized form of the sentence:

(28) John disappeared in that manner.

From the two sentences (27. 1) and (27. 2) a base form may be obtained in exactly the same way that (25) is obtained from (26. 1) and (26. 2):<sup>10</sup>

(29) That John disappeared in the manner (John disappeared in some manner) is unbelievable.

From this base form one would obtain:

(30) That John disappeared in the manner in which he disappeared is unbelievable. This form is of course grammatical, awkward as it may sound. On the other hand, if one embeds (27.2) into (27.1) mechanically, one obtains:

(31) John disappeared in some manner (that John disappeared in that manner is unbelievable).

The usual relativization process does not convert this to a well-formed speech form, since *that manner* in the constituent sentence, being contained in a *that*-clause in subject position, is not in a relativizable position.

But assume that the string *that John disappeared in* in (29) and (31) may be deleted. Then (29), with the usual application of the relativization process generates (16). On the other hand, (31) is converted into the form:

(32) John disappeared in some manner (that manner is unbelievable).

If one applies the relativization process to (32), one gets (5). The desired deletion must have the effect of deleting the string *that NP VP in* from *that NP VP in that manner*, if the latter is found either before or after the string *NP VP in some manner* under the identity condition of *NP*'s and *VP*'s.<sup>11</sup>

This transformation which must be added to the grammar in order to account for

---

sentences with relative clauses. For this point and some discussions to relate relative clauses to their discourse paraphrases, see Annear (1965) and Kuroda (1968).

<sup>10</sup> The form:

(A) John disappeared in the manner in which John disappeared.  
does not sound like a good sentence and one might question the well-formedness of base form (29), which contains (A). In this connection, however, note that the form

(B) John said what he said.

is also unnatural in a similar way as (A) is, while presumably it underlies quite normal sentences such as

(C) Bill did not expect to hear John say what he said.

After all, forms like (A) and (B) would have to be assumed to be grammatical in spite of the low degree of acceptability that would be assigned to isolated occurrences of such forms owing to semantic repetitiousness.

<sup>11</sup> More exactly, the derivation of (5) from (31) must be described as follows. In the cycle in which rules are applied to the constituent sentence *that John disappeared in that manner is unbelievable*, the transformation which preposes the noun to be relativized fails to apply to *that manner* in (31), because it is inside the *that*-clause. So the form remains intact. Then in the next cycle, in which the entire sentence is operated on, *that John disappeared in* is deleted with the effect that *that manner* is found at

(5) and (16) may not appear to be very simple.<sup>12</sup> But, the alternative explanation complicates, as pointed out earlier, the selectional restriction on the subject of the adjective *unbelievable*, allowing such base forms as:<sup>13</sup>

(33) That manner is unbelievable.

It would not seem so rewarding to choose between these two alternatives solely on the basis of apparent formal simplicity in this context, because the burden of describing forms like (5) and (16) is put in quite different portions of the grammar in these two alternatives. What would seem to be more relevant at this moment is to note that, however small the formal syntactic cost for the second alternative might turn out to be, semantically it compels us to pretend that (33) has well-defined meaning, just as (22) and (27.2) do, since so far as the semantic relation between the subject noun phrase and the adjective *unbelievable* is concerned, (33), being a base form, would have to be subjected to the same semantic interpretation as (22) and (27.2).

### 3. Postalians nouns

In the preceding section we introduced a transformation that deletes the string *that NP VP in* in certain contexts that involve *manner*. In this section we shall depart from our main topic on manner adverbials, in order to investigate a more general implication of this transformation.

Recently Paul Postal (1967) has made an interesting observation on a class of sentences that are apparently subjected to an identity restriction between the main (grammatical) subject and the subject of the apparent restrictive relative clause on a noun that is the

---

the beginning of the constituent sentence. Thus, whatever is left of the relativization process applies to *that manner* to change it into the relative pronoun *which*.

<sup>12</sup> In the above it is stated that *that NP VP in* is deleted from *that NP VP in that manner*. One may think that this deletion is unnatural, since *that NP VP in* does not form a constituent. Strictly speaking, it is not claimed here that the entire string is deleted by one transformation at a certain point in the grammar. Deletion of *in* may quite possibly be related to other possible cases of deletion of a preposition, for example, from the surface subject, whether or not this latter can be assumed to be as general a process as is proposed in Fillmore (1968). Likewise deletion of the complementizer *that* from the above string may be incorporated into a general independent process that would delete the complementizer of various origins. For the notion of complementizer, see Rosenbaum (1967). Thus, our phrasing "*that NP VP in* is deleted" is strictly speaking only heuristic, but sufficiently clear for our present purpose.

<sup>13</sup> Actually, by saying this I do not intend to imply that forms like *NP is unbelievable* is *really* a base form. As mentioned in note 7, they are perhaps derived from more basic forms containing the corresponding verb forms like *someone cannot believe NP*. But going all the way back to such forms is not relevant for our present purposes. Note, incidentally, that the selectional restrictions of NP with respect to the adjectival forms and the corresponding verbal forms may not be completely identical. For example, *surprising* and *surprisingly* behave just as *unbelievable* and *unbelievably* in our above examples; apparently they are related to the verb *surprise*. But the verb *surprise* may take certain simple noun, as well as nominalized sentences and their equivalents as its subject:

The earthquake surprised me.

That John disappeared surprised me.

John's disappearance surprised me.

head of a certain type of adverbial of, say, cause. Thus for example, in the sentence:

(34) Jones annoyed me by the abrupt manner in which he left.

the subject of the relative clause, *he*, must refer to the main subject, *Jones*. This identity restriction, if real, would, as Postal notes, be of a type unheard of in the history of the transformational study of grammars. But compare (34) with

(35) Jones annoyed me by leaving in the abrupt manner in which he did.

or with the abstract representation that would underlie (35):

(36) Jones annoyed me by (that Jones left in the abrupt manner in which Jones left).

Note that (34) can be obtained from (36) by exactly the same process as (16) is obtained from (29). Furthermore, if (34) is derived from (36) the puzzling identity restriction will disappear, since sentences like

(37) Jones annoyed me by leaving in the abrupt manner in which Bill did.

(38) Jones annoyed me by leaving in the abrupt manner in which he showed up.  
can be taken as well-formed. Thus, the transformation that was introduced above, whatever its exact formulation should be, has a more general implication than just serving to derive (16) from (29).

Furthermore, Postal's observation leads us to conclude that the transformation in question must be understood in a more general setting. Postal noted that the unique class in which the above identity restriction appears to be required is "very roughly characterized by the fact that the head noun of the apparent restrictive phrases is one of those nouns, like *manner*, which typically form prepositional phrases that function as adverbials, whatever that means." For easier reference, let us call those nouns *postalian*. Two more examples from Postal follow:

(39) I surprised John by the degree to which I understood astronomy.

(40) I surprised John by the frequency with which I sneezed.

If (34) is related to (36), then (39) and (40) would naturally be related to

(41) I surprised John by (that I understood astronomy to the degree to which I understood astronomy).

(42) I surprised John by (that I sneezed with the frequency with which I sneezed).

(39) and (40) can be derived from (41) and (42) if we generalize the transformation introduced in the last section in an obvious way so that it is triggered not only by *manner* but also by *postalian* nouns in general. Note that besides sentences like (39) and (40) that correspond to (34), those sentences that correspond to (5) and (16) i.e. those like

(43) John understood astronomy to an unbelievable degree.

(44) John sneezed with an unbelievable frequency.

and

---

Only the latter type of noun phrases may be the subject of *surprising*:

\*The earthquake is surprising.

That John disappeared is surprising.

John's disappearance is surprising.



(45) The degree to which John understood astronomy is unbelievable.

(46) The frequency with which John sneezed is unbelievable.

are also derived by the same transformation now generalized to postalian nouns.

Observe now the sentences:<sup>14</sup>

(47) John ate something unbelievable.

(48) Someone unbelievable came to visit John.

(49) John live some place unbelievable.

These sentences seem to indicate that the transformation under discussion must further be generalized so that it is triggered not only by postalian nouns but also by pro-nouns. However, the indicated generalization is, to my present understanding of the problem, plausible only to the extent that it accounts for forms like (47), (48), (49), by means of forms like

(50) John ate something (that John ate that is unbelievable).

(51) Someone (that he came to visit John is unbelievable) came to visit John.

(52) John lives at some place (that John lives there is unbelievable).

If the indicated generalization of the transformation were to be complete, the base forms that have an embedding structure inverse to that of (50), (51), and (52), i.e.

(53) That John ate that (which John ate) is unbelievable.

(54) That the one (who came to visit John) came to visit John is unbelievable.

(55) That John lives at the place (where John lives) is unbelievable.

would have to be assumed to yield the sentences

(56) That which John ate is unbelievable.

(57) The one who came to visit John is unbelievable.

(58) The place where John lives is unbelievable.

Although forms like (56)–(58) can be accepted, there seems to be a subtle difference, on the one hand, between these and forms like (45) and (46), and on the other hand, between these and forms like (47)–(49), in the ways the pro-nouns and postalian nouns are related semantically to the substantial verb phrases contained in the sentences. Thus, in all the previous cases, the unbelievability referred to in those forms seem to have to be understood with respect to the meaning of the substantial verb phrases. For example, *something* referred to in (47) is meant to be unbelievable as a thing to be eaten. On the other hand, in (56), for example, the unbelievability in question does not seem to be related particularly to the action of eating. The thing John ate is perhaps unbelievable as to its shape, color or maybe size. One of the various possible paraphrases of (56) would be

(59) The shape of that which John ate is unbelievable.

If so, (53) would not be an appropriate source from which (56) is to be assumed to be derived. Note that (56) is paralleled by

(60) The apple which John ate is unbelievable.

<sup>14</sup> I am indebted to John Ross for drawing my attention to these sentences.

in which no pro-noun or postalian noun is involved. One of the possible meanings of this sentence would be,

(61) The shape of the apple that John ate is unbelievable.

Forms like (59), (61) and the other possible paraphrases of (56) and (60) involve as yet poorly understood constructions like *the shape of NP*, *the color of NP*, etc. Assume, however, that they are derived from forms like

(62) NP is of the shape.

(63) NP is of the color.

etc. Nouns like *shape* and *color* may now be compared with the postalian nouns; in fact they also function to form prepositional phrases. We may now generalize the notion of postalian noun to include these nouns. Then, (59) and (61) can be assumed to be derived from

(64) That that is of the shape (that (John ate something) is of some shape) is unbelievable.

and

(65) That the apple is of the shape (the apple (John ate some apple) is of some shape) is unbelievable.

and in their derivation the deletion of *that that is of* and *that the apple is of*, respectively, by the transformation that has been being discussed but now extended to all the postalian nouns in the sense just generalized, is also involved.

The transformation so generalized can also be applied to the base forms that have embedding structure inverse to (64) and (65), i.e.

(66) That (John ate something) is of some shape (that that is of that shape is unbelievable).

(67) The apple (John ate an apple) is of some shape (that the apple is of that shape is unbelievable).

The sentences resulting from these base forms are:

(68) That which John ate is of an unbelievable shape.

(69) The apple which John ate is of an unbelievable shape.

Under the assumption made above on the source of the noun phrase *the shape of NP*, (68) and (69) yield the forms

(70) The unbelievable shape of that which John ate.

(71) The unbelievable shape of the apple which John ate.

It seems reasonable to assume that some postalian nouns may be deleted before *of*. This assumption would relate (56) derivationally to (59), on the one hand, and, on the other hand, it would make this derivation parallel to the one that would relate

(72) John's driving of the car is erratic.

to

(73) John's way of driving the car is erratic.

It is said above that (61) is one of the possible meanings of (60). One would perhaps take (61) as one of the possible syntactic sources of (60). Then, the sentence

(74) John ate an unbelievable apple.  
would be related to

(75) John ate an apple (the shape of the apple is unbelievable).  
which in turn would be derived ultimately from

(76) John ate an apple (that the apple is of the shape (the apple is of some shape) is unbelievable).

Now, returning to the sentence (47), we note that it is ambiguous, derived either from (50) or one of the forms like

(77) John ate something (that that is of the shape (that is of some shape) is unbelievable).

When (47) is derived from (50) unbelievability of something eaten is understood in connection with the action of eating, while when it is derived from one of the forms like (77) the unbelievability is not essentially related to the action of eating.

In sum, it is contended that the transformation that was introduced in the previous section must be generalized to post-alien nouns in general; its further generalization to pro-nouns seems to be possible only half-way.

#### 4. Adverbs like *happily*

Let us now consider case (C). As mentioned above, a form like

(9) John disappeared in a happy manner.  
is quite marginal for some speakers while

(8) John disappeared happily.  
is unanimously accepted. Whether (9) is accepted or not, the base form which would be expected from it:

(78) John disappeared in a manner (that manner was happy).  
cannot be considered as the source of (8) and (9), since the simple sentence:

(79) \*That manner was happy.  
is not accepted. This adds to the other evidence that *happily* (and *in a happy manner*, if accepted) would be something like:

(20) John was happy (John disappeared).

As mentioned at the beginning of the last section, if forms like (9) are not grammatical, there does not seem to be any reason why *happily* in (8) may not be derived directly from *happy* in (20). On the other hand, *elegantly* in (2) apparently derives from *in an elegant manner* in (3) by rule (4). So, *in a happy manner* in (9) may well be the source of *happy* in (8), even if the former is ungrammatical. Whichever the case, the form *happily* seems to have a sound basis of existence to some extent. More interesting is the form *in a happy manner*, since it lacks an apparent natural source.

Here, in searching for a *natural* explanation of the form *in a happy manner*, our thoughts may turn to Harris' deductive schema. Let me quote the following from Harris (1965):

"Consider two sentence forms A, B, each containing some subcategory X and there-

fore written  $A(X)$ ,  $B(X)$ . If between  $A(X)$  and  $B(X)$  there holds some succession of elementary operations, then given the corresponding form  $A(X')$  containing a subcategory  $X'$  similar to  $X$ , there is a possibility of finding  $B$  of  $X'$ :

$$(80) \quad \begin{array}{ccc} A(X) & \longleftrightarrow & B(X) \\ A(X') & & \\ \hline & & B(X') \end{array}$$

It should be understood that while  $B(X')$  is a transform of  $A(X')$ , it is not derived from  $A(X')$  by a transformation, but is derived from the above rule. Derivation is therefore to be taken in the sense of this rule, and is not identical with transformation in its definition."<sup>15</sup>

We have two pairs at hand:

- (81.1) John disappeared elegantly: (=2)  
 (81.2) John disappeared in an elegant manner. (=3)  
 (82.1) John disappeared happily: (=8)  
 (82.2) John disappeared in a happy manner. (=9)

Of these four forms, (82.2) does not seem natural; the form *happy manner* exhibits the modifier-noun construction but lacks a sound justification for its appearance. On the other hand, the form *elegant manner* is well-motivated; the adverb forms *elegantly* and *happily* do not demand much justification for their appearance, whatever their generative derivations are, since the inner structure *adjective+ly* would at best vaguely suggest its source adjective and no definite meaning relationship is implied between the two formants, *adjective* and *ly*. But, perhaps, would (82.2) not be the *conclusion* from the *major premise* (81) and the *minor premise* (82.1) according to Harris' syllogism (80)? This would seem to be a sort of natural explanation of the form *in a happy manner*:

$$(83) \quad \begin{array}{ccc} (81.1) & \longleftrightarrow & (81.2) \\ (82.1) & & \\ \hline & & (82.2) \end{array}$$

But just what does this mean in the theoretical scheme of generative transformational grammar in which we are working? Would it mean that there is a rule that derives (82.2) from (82.1), perhaps of the form:

- (84) Adjective+ly  $\rightarrow$  in a Adjective manner,

which is directed in the opposite way to rule (4)? This opposite direction seems to comply better to the fact that forms to be represented by the right hand side have more or less unstable status.

But rule (4) being at hand, introduction of rule (84) would seem to lack sound justification. Thus, one might say, perhaps the base form (20) would first be converted into

<sup>15</sup> The notion of transformation in Harris is different from that conceived in the generative transformational theory by Chomsky on which our discussion is based. The reader may caution us against unwarranted confusion of these two notions; but our reference to Harris is, as will be seen, only heuristic. Note that the two terms  $A(X)$  and  $B(X)$  of the major premise in the diagram (36) may not be related derivationally one to the other by transformations in Chomsky's sense.

(82.2) and then rule (4) would convert it, possibly almost obligatorily for most speakers, into (82.1); Harris' syllogism would at best serve to give certain *historical* motivation for the introduction of the rule in the grammar that converts *happy* in the higher sentence into *in a happy manner* (rather than directly into *happily*); it would not give any generative motivation to the form *in a happy manner*.

However, in the next section, rule (4) will be abandoned altogether; being left without a rival, (84) will be established as the generative rule that is responsible for the forms like *in a happy manner*.

### 5. Adverbs like *elegantly*

Let us now return to case (A), which does not seem to raise any problem; (2) seems to be derived from (3) by rule (4). (4), however, may not apply to (5), which would yield the ungrammatical (6). We ask ourselves now, after our reexamination of case (B) above, whether we are in a better position to describe this restriction.

The elementary ordering technique immediately comes to mind for this purpose: apply rule (4) when (3) and (5) are still structurally differentiated; more precisely, apply rule (4) before the rule which deletes the string *that John disappeared in* from (31). Since this deletion precedes completion of the generation of relative clauses,<sup>16</sup> rule (4) would have to be reformulated as follows:

(85) *in a manner* (that manner is Adjective) → Adjective + *ly*.

But then, putting aside the elegance of the rule, this reformulation of rule (4) would further imply a reformulation of the rule which derives the form *in a happy manner* from *happy* in the higher sentence; the rule would now have to convert *happy* into the form *in a manner* (*that manner is happy*). Otherwise we would need two different rules to generate the adverbial forms *elegantly* and *happily* from the forms *in an elegant manner* and *in a happy manner*, respectively. One wonders, what would the fruit of all our toil be.

The wonder would lead one to a reexamination of the form *elegantly*; why do we have to say that *elegantly* comes from *in an elegant manner*? Assume that *elegantly* has some other source, so that rule (4) is not needed any more to generate it from *in an elegant manner*. Then, there would be no reason why (84) should not be taken as a generative rule to account for *in a happy manner*. It would follow that the adverb *happily* in (8) is a direct descendant of the adjective *happy* in (20). Note that, undoubtedly, *unbelievably* also comes directly from a predicative use of the adjective *unbelievable* in a higher sentence. Note also the similar appearance of the adverbs *happily* and *unbelievably* to that of the adverb *elegantly*. Why then not an essentially similar derivation for *elegantly*, too? But does there exist any base form in which *elegant* is used predicatively in a higher sentence and which may reasonably be considered to be the source of *elegantly*?

<sup>16</sup> See note 11.

Sentence (3) has the base form (18). This base form is in a sense related to the discourse (26). And we also observed that, interchanging the role of the matrix and constituent sentence, discourse (26) would give rise to sentence (12). Its base form is:

(86) The manner (John disappeared in some manner) was elegant.

But note that here *elegant* is a predicative adjective in a higher sentence to which the sentence *John disappeared* is subordinated. Would it not be the case that this occurrence of the adjective *elegant* is lowered down to the constituent sentence in the form of the adverb *elegantly*? Compare the following forms:

(21) It is unbelievable that John disappeared.

(15) John was happy (John disappeared).

(87) The manner was elegant in which John disappeared.

The last form is obtained from (86) by extraposing the relative clause. These three forms have much the same formal appearance. The surface matrix subjects are semantically redundant for different reasons. The matrix sentences are adjectival copular sentences followed by a subordinated sentence. It may not be quite so simple to write down formally a rule which *lowers* adjectives in these contexts, and just these, but the inherent identity of the required process seems well justified. In brief, one may now be able to say that all the *ly*-adverbs in question are surface manifestations of predicative adjectives in sentences one degree higher in the deep structure.<sup>17</sup> Rule (4) has disap-

<sup>17</sup> Lakoff (1965) has proposed that not only all manner adverbials, but adverbials in general (place adverbials, time adverbials, instrumental adverbials, etc.) are derived from predicates in higher sentences. But under predicates in higher sentences two cases must be distinguished. In one case the subject of a higher sentence is a noun which appears also in the lower sentence and which is deleted under the identity condition when the higher predicate is converted into an adverb in the lower sentence. This is the case with (20) and its derivative (8).

(20) John was happy (John disappeared).

(8) John disappeared happily.

In the other case the subject of the higher sentence is the proposition expressed by the lower sentence. Thus, taking an example from Lakoff, the base form of

(A) I beat my wife in the yard.

is assumed to be

(B) It (that I beat my wife) is in the yard.

Now, Lakoff pointed out, and quite rightly, that setting up a base form like (20) for (8) accounts well for the fact that the negation of (8):

(C) John did not disappear happily.

is synonymous with the negation of the matrix sentence of (20):

(D) John was not happy to disappear.

This fact is not necessary for the argument that (20) is the base form of (8), as actually seen from the arguments given in Lakoff (1965). But it is hard to see, on the other hand, how this fact and abundantly available similar facts can be taken as sufficient to establish the claim of the *higher* origin of adverbial phrases in general, as Lakoff (1965) seems to do for the second case mentioned above. It is one thing that base forms of a particular structure account for some particular type of facts, and it is another thing whether those facts may be used to justify setting up of base forms of that particular structure.

In fact, the real significance of the fact brought forth for the purpose of establishing the higher origin of adverbials is far from clear enough to be used for that purpose. It is claimed, and quite correctly,

peared.<sup>18</sup>

that the form

(E) I don't beat my wife in the yard.

may mean

(F) It is not in the yard that I beat my wife.

But with appropriate intonation, and especially if *in the yard* is preposed, (E) may mean:

(G) It is not my wife whom I beat in the yard.

If the possible reading (F) of (E) may lead to the setting up of the base form (B) for (A), thus depriving the *place adverbial* of its status as a constituent of a simple sentence, why does the possible reading (G) of (E) not lead one to abandon the *object, my wife*, as a constituent of the simple sentence? Assume further that for some reason the constituent status of the object is defended. Then, one may wish to account for the reading (G) of (E) by

(H) I beat someone who is not my wife in the yard.

But then, why may one not assume the following as the source of the reading (F) of (E)?

(I) I beat my wife at some place which is not (in) the yard.

The evidence for base forms like (B) is as yet to be supplied. In the recent paper, Lakoff (1968), he argues for 'higher' origin of instrumental adverbs for reasons independent of partial negation.

Restricting ourselves now to manner adverbials, let us note that only manner adverbials like *happily* had so far been traced back to predicates of higher sentences with sufficient justification. Consequently, only negative sentences with manner adverbials like *happily* may be said to have been accounted for by deriving forms like (C) from forms like (D). But now we have assumed that manner adverbials like *elegantly* also originate in the predicate of a higher sentence, and negative sentences containing such manner adverbs can now be said to be accounted for:

(J) John did not disappear elegantly.

is derived from

(K) The manner (John disappeared in some manner) was not elegant.

On the other hand, negative sentences containing manner adverbial *prepositional* phrases are accounted for by deriving the negation from the constituent sentence. For example,

(L) John did not disappear in an unbelievable manner.

is derived from

(M) John disappeared in some manner (That John disappeared in that manner is not unbelievable). Thus, our analysis gives a satisfactory account of partial negation with respect to all instances of manner adverbials discussed in this paper, independently of whether or not adverbials in general must be assumed to be derived from higher sentences.

<sup>18</sup> It is admitted that the sentential adverb *unbelievably* does not have the same property as the manner adverb *elegantly*. Generally the former is preposed while the latter is postposed in the sentence. This fact may be counter-valued against the elimination of an ad hoc restriction imposed on rule (4) needed in the old analysis to prevent the generation of the form *unbelievably* as a *manner adverbial*. Note, however, that whichever analysis is adopted, *happy* in (20) must be lowered as a *manner adverbial*, and that whatever formal machinery is necessary for this purpose can be generalized to make the adverb *elegantly* a manner adverb.

The information that *happily* is a manner adverbial must be referred to in order to obtain the prepositional form *in a happy manner* from *happily*, and rule (84) is not quite exactly formulated for this purpose. Otherwise, the *sentential* adverb *unbelievably* would also be converted into *in an unbelievable manner*, which is not correct as a *sentential* adverbial. The exact formulation of (84) would have to be:

(Adjective + ly) *Manner Adverbial* → *in a* Adjective *manner*.

One must note, however, that this complication of rule (84) is not due to our reversing the generative direction of rule (4). Rule (4) must also be subjected to a similar additional restriction in order to achieve the intended result. Indeed, it is not sequences of words of the form *in + a + Adjective + manner* as such, but such sequences which constitute a manner adverbial, i.e. which are dominated by a node *Manner Adverbial*, that may be replaced by adverbs of the form *Adjective + ly*. Thus for example, in the sentence:

## 6. Conclusion

Let us recapitulate the analysis proposed above.

Case (A). From the base form:

(18) John disappeared in a manner (that manner was elegant).  
one obtains

(3) John disappeared in an elegant manner.  
by means of the usual relativization process. From the base form:

(86) The manner (John disappeared in some manner) was elegant.  
one obtains

(2) John disappeared elegantly.  
by the process of forming adverbs from higher predicative adjectives.

Case (B). From the base form:

(29) That John disappeared in the manner (John disappeared in some manner) is unbelievable.  
one obtains

(16) The manner in which John disappeared is unbelievable.  
by deleting the string *that John disappeared in* and by applying relativization. From (29) by the usual process of relativization one obtains a clumsy yet grammatical sentence:

(30) That John disappeared in the manner in which he disappeared is unbelievable.  
If the process of adverb formation is applied to (29), one obtains

(88) Unbelievably, John disappeared in the manner in which John disappeared.  
It is assumed that the process of adverb formation applies before the deletion of *that John disappeared in*. This assumption would exclude the possibility that the former applies to (16) and yields the ungrammatical (6).

From the base form:

(31) John disappeared in some manner (that John disappeared in that manner is unbelievable).  
one derives

(5) John disappeared in an unbelievable manner.  
by first deleting the string *that John disappeared in* and then applying the usual process of relativization.

---

Mary danced in an elegant manner that reminded us of her mother.  
*in an elegant manner* may not be replaced by *elegantly*, since here the entire phrase *in an elegant manner that reminded of her mother*, and not just *in an elegant manner*, is a manner adverbial. Note that this rule would also operate on the adverb *elegantly*, to the effect that the form *in an elegant manner* is generated in two different ways. Consider this problem in two cases. First assume that forms like *in a happy manner* do not have a secure status in the language. Their acceptability may even change from adjective to adjective. For example, as is the case with some speakers, *in a reluctant manner* may be acceptable, but not *in a happy manner*. In this case, the above rule is a very special rule. Some adjectives must be specially marked (perhaps even for degree of acceptability) in the lexicon with respect to the applicability of the rule. Adjectives like *elegant* can be left unmarked, and the rule does not apply to the adverb *elegantly*. On the other hand, assume that forms like *in a happy manner* are well established in the language. Then, the rule is a general rule and one may not need to



Case (C). From the base form:

(20) John was happy (John disappeared).  
one obtains

(8) John disappeared happily.  
by means of the process of adverb formation. From this,  
(9) John disappeared in a happy manner.  
is derived by rule (84).<sup>19</sup>

UNIVERSITY OF CALIFORNIA AT SAN DIEGO, U. S. A.

#### REFERENCES

- Annear, Sandra S., (1965) "English and Mandarin Chinese: definite and indefinite determiners and modifying clause structures," *Project on Linguistic Analysis Report* No. 11, Ohio State University.
- Bach, Emmon, (1968) "Nouns and noun phrases." In E. Bach and T. Harms, eds. *Universals in linguistic theory*, New York.
- Bollinger, Dwight, (1967) "Adjectives in English: attribution and predication," *Lingua* 18.1-34.
- Chomsky, Noam, (1965) *Cartesian linguistics*, New York.
- Fillmore, Charles, (1968) "The case for case." In E. Bach and T. Harms, eds. *Universals in linguistic theory*, New York.
- Harris, Zellig S., (1965) "Transformational theory," *Lg.* 41, 363-401.
- Katz, Jerrold J. and Paul M. Postal, (1964) *An integrated theory of linguistic descriptions*, Cambridge, Massachusetts.
- Kuroda, S.-Y., (1968) "English relativization and certain related problems," *Lg.* 44, 244-266.
- Lakoff, George, (1965) "On the nature of syntactic irregularity," The Computation Laboratory, Harvard University, Report No., NSF-16.
- , (1968) "Instrumental adverbs and the concept of deep structure," *Foundations of Language* 4.4-29.

mark each adjective for applicability of the rule. Adjectives like *elegant* can also be left unmarked. From (2) may be converted, in a sense, redundantly, into (3) by this rule. But grammatically, what does this matter? The speech form (3) is then *derivationally* ambiguous, but not *semantically*, since the two base forms (18) and (25) are synonymous. (Their synonymy is assumed independently of the problem we are now confronted with since (2) and (3) are assumed synonymous.) There would be no point arguing, given a particular instance of (3), whether it is derived from one base form or the other.

<sup>19</sup> I do not intend to claim that the above analysis accounts for all instances of the so-called manner adverbs. Nor is it claimed that syntactic and semantic characterizations of the categories of adverbs treated here is complete. It is believed, nonetheless, that the essential points discussed in this paper will remain as a section of more comprehensive studies of manner adverbs.

- Postal, Paul M., (1967) *Linguistic anarchy notes*: Series A, Horrors of identity; Number 1, Some requisite equivalences in instrumental phrases, IBM, Thomas J. Watson Research Center, Yorktown Heights, New York.
- Rosenbaum, Peter, (1967) *The grammar of English predicate complement constructions*, Cambridge, Massachusetts.

# TOWARDS A DIFFERENTIATION THEORY FOR LINGUISTICS

YU. K. LEKOMCEV

## 1. INTRODUCTORY

The aim pursued in this article is to elucidate some problems of a theory urgent, in the author's opinion, for all linguistic stratas dealing with differentiation (distinction) of linguistic objects.<sup>1</sup>

Certain domains of linguistics have arrived at such a degree of logical complication that "die logische Wahrheit" and "die faktische Wahrheit" (R. Carnap) ought to be kept strictly differentiated. This is one of the reasons for introducing a symbolic meta-language for the description of differing linguistic objects. The urgency of the task could evidently be proved by pointing out the fact that symbolic meta-languages of this kind have been steadily proposed in recent years.<sup>2</sup> First among the linguistic domains in which a differentiation theory appears to be needed is that of phonology.

In other domains as well there are many problems related to questions of differentiation, for example, the problem of word classes (or parts of speech) seems to be closely connected with how such classes differ and to what extent. A need to differentiate various linguistic objects may arise e.g. categories, constructions, transformations, etc.

Another linguistic problem which presupposes the development of differentiation theory is the problem of typological measurement of linguistic structures, e.g. sentence patterns, tense systems, etc. in various languages.

The intrinsic logic of phonological research seems to lead to the replacement of the concept of binary opposition by the concept of discrete distinctive features belonging to elements (phonemes, in particular).

Indeed, to say, for example, that (distinctive) feature N (nasal) belongs to the phoneme /ŋ/ and does not belong to the phoneme /k/ must be considered as a more precise assertion than to say that /ŋ/ and /k/ are opposed by N.

<sup>1</sup> A fuller explication of this theory can be found in our article "El'em'enty t'eoriji različ'en'ija"/1963/ published in *Probl'emy strukturnoj l'ingv'ist'ik'i*, 1967 Moscow, 1968, pp. 18-46. A nut-shell account may be found in *T'ezi'sy dokladov k s'impoz'iumu po probl'em'e M'etody razl'ič'en'ija i otožd'estv-l'en'ija jed'in'ic jazyka*, Minsk, 1964. The problem of application of the theory to grammatical phenomena is dealt with in *K t'ipolog'iji razl'ič'enija grammat'ic'esk'ich klassov Narody Aziji i Afriki*, N 4, 1963.

<sup>2</sup> E. g. see J. Cantineau/1/, G. Ungeheuer/8/, S. Marcus/4/, J. W. T. Mulder/5/, a. o.

The concept of discrete distinctive features is taken as a basis for differentiation theory. It must be emphasized that the principle of discreteness is of a purely logical character. It means that objects under consideration, irrespective of whether they are discrete or not, under certain circumstances may be described in a meta-language operating with discrete units. The concept of distinctive features is a relative one. Given any three-level hierarchy of linguistic units, the units of the lowest level may be regarded as features which serve to differentiate the units of the next level within the units of the highest level. E.g. distinctive features differentiate phonemes which in turn constitute syllables.

If phonemes are regarded as features, syllables would be elements consisting of phonemes (within polysyllabic sequences or a syllabic inventory).

In this article we are only concerned with the problem of the differentiation of elements in strings. Rather often in phonological descriptions one comes across such means of representation as the matrix for identifying phonemes by distinctive features. On the other hand phonemes are constructed on the basis of comparing contrasted pairs (minimal pairs). The question arises as to how both procedures are connected with one another. The connection between these phenomena may be traced in N.S. Trubetzkoy's conception of interchangeable and mutually exclusive sounds.<sup>3</sup> The ability or non-ability of sounds to be opposed was considered by N. S. Trubetzkoy as one of the fundamental problems in phonology.

According to Trubetzkoy some sounds, e.g. *h* and *η* in German, never occur in the same position and consequently can not be immediately opposed.

However the opposition takes place through intermediate oppositions to other sounds. The analysis of the situation in exact terms (of the differentiation theory) is the subject of our article.

## 2. THE PRIMITIVE TERMS

The following terms are taken without any definition.

1) Differentors. Distinctive features of any nature are understood by this term. Differentors are elementary entities denoted here by the Greek minuscules:  $\alpha, \beta, \gamma \dots$

2) Abstract elements. The abstract elements are denoted by small latin letters: *a, b, c, \dots*

3) Set. The sets are denoted: *U, V, W, \dots* A set is understood as any collection of abstract elements.

4) Membership relation. The abstract elements are said to enter a set, or to belong to a set; symbolically:  $a \in U$ .

The following terms are defined through the terms given above /2-4/, but their definitions remain beyond our system of definitions (they are defined in set theory).

<sup>3</sup> N. S. Trubetzkoy, *Grundzüge der Phonologie*, TCLP, Vol. 8, 1939, S.

5) Inclusion relation /Symbolically  $U \subseteq V$  or  $U \subset V$ /.

Any set  $U$  is said to be included in a set  $V$ , if any abstract element  $a$ , belonging to  $U$  /as $U$ /, belongs to  $V$  /as $V$ /.

If set  $U$  is included in  $V$  and set  $V$  is included in  $U$ ,  $U$  and  $V$  are said to be equal / $U = V$ /.

If set  $U$  is included in  $V$  and  $U$  is not equal to  $V$ ,  $U$  is said to be properly included in  $V$  (symbolically:  $U \subset V$ ).

6) Subset. Any set  $U$ , included in a set  $V$ , is said to be a subset of  $V$ .

If a set is properly included in another set, it is called a proper subset of the latter.

Below the term subset (subsystem, etc.) should be understood to mean proper subset.

7) Relation and properties of a relation. The concepts of relation and properties of a relation are taken here without definition, though they are definable in terms of the concepts given above.

8) Order relation (order; to be ordered) The concept is left undefined, though it may be defined in terms of properties of a relation.

## 9) Finitude.

## 10) Concatenation. The operation of concatenation is taken here as a primitive.

## 11) Some concepts related to differentiation.

To the terms given above 1)–9) another group of terms of a special kind should be added. The matter is that such terms as “different, to be different, to differentiate” and so on or “to be equal, to coincide” are defined, when they refer to elements. However the same terms should be conceived as non-defined (i.e. primitive), when they relate to other entities: differentors, environments, etc. No special device to distinguish between both kinds of terms is used below.

Just as all terms are divided into defined and primitive, all statements of a theory are to be divided into derived and non-derived (or primitive), in other words into theorems and axioms. In this article the author avoids giving the axioms, preferring to formulate some statements (theorems) of the theory intuitively.

Presumably it may be said that the axioms of our theory should be connected with those of Boolean algebra, although bringing the notion of strings into consideration leads no doubt to the acceptance of a more complex axiomatics.

## 3. DIFFERENTIATION SYSTEM

Other terms of differentiation theory are derived from the primitive ones. A finite set  $M$  of differentors is given.

*Definition 1*

Any subset of  $M$  ( $M$  being a finite set of differentors) is called an element.

*Definition 2*

Any finite set of elements is called a Differentiation System (abbreviated DS).

*Definition 3*

Any two elements are called equal if each of them is a subset of the other. Ac-

cording to definition 2, it is possible that all elements of a DS are equal. Such DS's will not be considered here. Further it will be meant that at least one pair of elements of a DS are not equal.

*Definition 4*

A DS is called *primitive*<sup>4</sup>, if 1) its elements are not equal; 2) any element of the DS contains at most one representative (i.e. inclusion) of a certain differotor  $\alpha$ , for every  $\alpha$  from  $M$ ; 3) any element  $a$ , which contains the same differotors as another element  $b$ , but differently arranged, e.g.  $a=[\alpha, \beta]$ ,  $b=[\beta, \alpha]$ , coincides with  $b$ . (i.e. the order of differotors is not relevant).

A DS in which conditions 1-3 of Definition 4 are not fulfilled is called *non-primitive*.

*Definition 5*

A non-primitive DS in which condition 2 of definition 4 is not fulfilled is called *non-primitive I DS*.

Hence in a non-primitive I DS any element may contain several inclusions of the same differotor. We limit such repetitions with a finite number of inclusions (of a differotor), i.e. only finite repetitions (i.e. a finite number of inclusions of an element) are admissible.

*Definition 6*

A non-primitive DS in which condition 3 of definition 4 is not fulfilled is called a *non-primitive II*.

Let  $\tilde{M}$  be the set of all subsets in  $M$ .

*Definition 7*

A DS is called *complete* if every subset of  $M$  is treated as an element of this DS.

*Definition 8*

If not every subset of  $M$  is an element in a DS, the latter is called *non-complete*.

#### 4. DIFFERENCE RELATIONS

The main subject of differentiation theory is connected with studying certain relations between elements of a DS, namely, the difference relations, abbreviated DR.<sup>5</sup>

*Definition 9*

Ordinary difference relation (DR) by differotor  $\alpha$  is a set of ordered pairs of elements  $[x, y]$  of a DS, such that differotor  $\alpha$  belongs to one of them (e.g. to the left or to the right element respectively of each pair) and does not belong to the other.

*Definition 10*

Double difference relation by differotors  $\alpha$  and  $\beta$  is such a set of ordered pairs of elements  $[x, y]$  of a DS, that differotor  $\alpha$  belongs to one of them and differen-

<sup>4</sup> Not to be confused with the word primitive in "primitive terms." The term primitive DS is defined.

<sup>5</sup> Difference relations could be treated as well in terms of operations of Boolean algebra: union and intersection or in terms of the order relation, any DS being a partially ordered set. But such meta-linguistic problems do not belong here.

tor  $\beta$  to the other.

### 5. DIFFERENTIATION OF ELEMENTS IN STRINGS

Let a primitive DS  $A$  be given. A string is regarded as a finite ordered set of elements from  $A$ . It should be assumed that many exemplars of any element of  $A$  are available.

An element of  $A$  can enter a string several times, taking various positions in the string. Positions (places) may be marked by indices from 1 to  $n$ . E.g.  $a_1 a_2 a_3 \dots a_n$  to represent an example of a string consisting of one element  $a$ .

Let a finite set  $U$  of strings be given, every string being of the same length, i.e. including an equal number of indexed elements.

Let set  $A$  be called the general DS.

Now an important concept has to be discussed, the concept of contrast (or opposition).

In linguistics the following premise is implicitly accepted by many scholars: differentiation should take place within one paradigm, i.e. the choice between two elements occurs if the elements are situated analogously in the strings they belong to, e.g. if the elements occur in the third place from the left. We shall follow this premise. By contrast we understand a condition in which a DR between elements of strings could exist. The formal definition of contrast will be given below.

Several approaches to the concept of contrast are possible. Contrast may be regarded as actual, i.e. connected with strings that have been produced and presented in a finite inventory, or it may be regarded as constructive, i.e. connected with strings in process of production. E.g. contrast should be regarded as actual in the pair cat/hat and as constructive in the pair pot/pocket where  $[t]$  is opposed to  $[k]$ . Linguists who pick out minimal pairs from vocabularies or texts as a rule use the actual type of contrast.

Contrast may also be regarded as either presupposing only the identity of indices or as presupposing the identity of environments as well. Thus, for example, in the pair  $m_1 i_2 l_3 k_4 / t_1 r_2 a_3 m_4$   $[i_3]$  and  $[a_3]$  are contrasted, since the indices of these elements are identical, in the pair  $['bita]$  and  $['biga]$  the elements  $[t_3]$  and  $[g_3]$  are contrasted, since their indices and their environments are identical.

Thus contrasts may be classified into

- 1) actual with the identity of indices
- 2) actual with the identity of environments
- 3) constructive with the identity of indices
- 4) constructive with the identity of environments.

Here we are going to deal with types 1) and 2), i.e. with actual contrasts. Contrast may be conceived as a relation. A contrast relation is a relation between two elements of a pair of strings which makes it possible to state a difference relation (DR) between these elements.

*Definition 11*

**Contrast relation (CR)** is a subset of ordered pairs of elements belonging to different strings such that for every pair the following conditions are fulfilled: 1) both elements of any pair have identical indices, 2) both elements of any pair belong to DR.

*Definition 12*

**Contrast relation with identity of environments** is a CR for which the following condition is fulfilled: for each pair the corresponding environments, i.e. other elements in the string, are identical.

The minimal pairs usually considered in linguistics, e.g. *sad/lad*, etc., belong to the latter type of CR.

*Definition 13*

Differentors which differentiate the elements contrasted in strings may be called **exposed differentors**.

*Definition 14*

Differentors which belong to an element *a* in CR and are not exposed may be called the **latent differentors** for this contrasting pair.

Thus, latent differentors are those which are common to both contrasted elements.

*Definition 15*

The set of elements with any index *i* which is differentiated by the differentors exposed in the corresponding CR pairs is called the *i*-**indexical DS** or, more generally, **mono-indexical DS**.

The set *A* of elements may be assumed to include the zero-element (symbolically *n*), i.e. the element containing no differentor. The zero-element may be defined according to its syntactical properties, i.e. its behaviour in strings.

*Definition 16*

An element is called the zero-element (*n*) if when concatenated with any element *a* of *A*, it yields the string consisting of *a*. Symbolically:

$$a \cdot n = a \quad \text{or} \quad n \cdot a = a \quad (\text{I})$$

A string including the zero-element in one or several positions is equal to another string with re-written indices. Transformations which the indices undergo are described by the rule below.

*Rule of indices*

All the elements following the zero-element change their indices  $i_k$  into  $i_{k-1}$  when the string is transformed in accordance with formula (I).

E.g.  $n_1 a_2 = (a_2)_1;$   
 $a_1 n_2 b_3 = a_1 (b_3)_2.$

The introduction of the zero-element enables us to represent strings of various lengths as being of a constant length. It follows from definitions 11 and 16 that elements with nonidentical indices *i, j* may belong to CR in some cases when the contrasted



strings contain zero-elements.

E.g. elements  $x_i, y_j$  from the pair of strings

$$\begin{aligned} a_1 x_i \dots n_j \dots z_q &= a_1 \dots x_i \dots z_{q-1} \\ a'_1 \dots n_i y_j \dots z'_q &= a'_1 \dots (y_j)_i \dots z'_{q-1} \end{aligned}$$

receive identical indices and belong to a CR.

*Definition 17*

A DS whose elements with various indices contrast because of the use of zero-elements/as a consequence of formula I/, i.e. one which comprises two or more mono-indexical DSs, is called an integrating DS.

## 6. GENERATOR

Let the set U of strings be represented in a more convenient form for further considerations—in the form of generator of strings.<sup>6</sup>

*Definition 18*

An ordered finite set of classes G, every class  $K_i$  including all the elements with index  $i$  constructed so that every string of U can be chosen by picking out one element of a class and no string that does not belong to U can be chosen, is to be called the generator of the set U of strings.

As a general rule the generator should be more strictly defined but for the purposes of this article definition 18 will suffice.

Depending on which classes of G include the zero-element, various types of the generator should arise.

*Definition 19*

The generator G is said to be a zero-level generator (symbolically  $G_0$ ) if every class of G includes the zero-element.

*Definition 20*

The generator G is called a level-one generator (symbolically  $G_1$ ) if only one class  $k_i$  of G which should be neither the first nor the last class in G does not include the zero-element.

Statement 1

If all of  $q$  classes of generator G include the zero-element, i.e. G is  $G_0$ , every pair of elements of G belongs to CR/with the identity of environment/.

Proof

Among other strings  $G_0$  generates the strings in which  $q-1$  classes are represented by

<sup>6</sup> The concept of the generator or synthesizing device is widespread in modern linguistics following the ideas of Professor N. Chomsky and his school. Our concept of the generator: being constructed independently, differs from that of Professor Chomsky. A more detailed account of our concept of the generator may be found in "K voprosu ob analog'ijach v strojen'iji schem sloga i prostogo pr'edložen'ija" in the volume *Probl'emy strukturnoj l'ingv'ist'ik'i*, Moscow 1962 and in "Struktura vjetnamskogo prostogo pr'edložen'ija" Moscow. 1964.

the zero-element. Such strings consist of only one element of  $G_0$ . All elements of  $G_0$  are contrasted consequently with the identity of environment namely in  $\#[ \ ]\#$ , where symbol  $\#$  denotes a juncture.

The conclusion is to be drawn evidently from statement I that the general DS and the integrating DS should coincide in  $G_0$ .

Let us start by considering a CR with the identity of environments in  $G_1$ .

Let the class of  $G_1$  that does not contain the zero-element be called the medial class of  $G_1$ . The classes preceding the medial class may be called the initial classes and the classes following the medial class the final ones.

Let a convention be accepted that the elements belonging to the medial class in  $G_1$  should not belong to other classes of  $G_1$ . This restriction would correspond to the linguistic fact, that monosyllabic morphemes contain vowels only in one of the classes.

*Definition 21*

Let any set of classes of  $G_1$  which have uninterrupted indices and include, every of them, the zero-element be called the sub-generator  $G'_0$  of  $G_1$ .

It is obvious that the sub-generator  $G'_0$  is a zero-level generator  $G_0$  (according to definition 17). Evidently the generator  $G_1$  contains two sub-generators  $G'_0$ : including all initial classes and including all final classes respectively (symbolically  $G'_{0\text{ in}}$  and  $G'_{0\text{ fin}}$ ). The medial class does not belong to either  $G'_{0\text{ in}}$  or  $G'_{0\text{ fin}}$ .

*Statement II*

The medial class of  $G_1$  has no identical environment with any class belonging to sub-generator  $G'_0$ .

*Proof*

Suppose that an element  $a_i$  of the medial class  $k_i$  of  $G_1$  occurs in an identical environment with an element  $x_j$  belonging to a class of sub-generator  $G'_0$ :

$$\begin{aligned} & \dots a_i \dots \\ & \dots (x_j)_i \dots \end{aligned}$$

Let us assume that the right hand environment is identical in both strings where  $a_i$  and  $x_j$  belong. But then to the left of  $x_j$  an element of the medial class (suppose  $e_i$ ) should occur, that is not identical to any element of  $G'_{0\text{ in}}$  (in accordance with the convention accepted above.) Analogously the case with  $x_h$  belonging to  $G'_{0\text{ in}}$  can be considered.

Thus our previous supposition about the possibility of  $a_i$  and  $x_j$  ( $x_h$ ) occurring in an identical environment was wrong and statement II should be accepted as true.

*Statement III*

No element of any initial class contrasts in an identical environment with elements of final classes in  $G_1$ .

*Proof.*

The environments of the elements under consideration ( $a_h$  of an initial class and  $b_j$  of a final class) are not identical, since elements of the medial class are placed to the right of  $a_h$  and to the left of  $b_j$  and environments of both elements cannot coincide.

It is evident that any pair of elements of the medial class is able to contrast in the identical environment. Thus the following may be said about  $CR'_s$  with identical environment in generator  $G_1$ .

- 1) All the elements of initial classes are contrasted (belong to  $CR$ );
- 2) All the elements of the medial class that does not contain the zero element, are contrasted;
- 3) All the elements of final classes are contrasted.

We shall give the following matrix for  $CR$  with identical environment in generator  $G_1$ :

		initial classes				medial class			final classes	
		$K_1$	$K_2$	...	$K_{i-1}$	$V_i$	$K_{i+1}$	...	$K_{n-1}$	$K_n$
initial classes	$K_1$	1	1	1	1	0	0	0	0	0
	$K_2$	1	1	1	1	0	0	0	0	0
	...	1	1	1	1	0	0	0	0	0
medial classes	$K_{i-1}$	1	1	1	1	0	0	0	0	0
	$V_i$	0	0	0	0	1	0	0	0	0
	$K_{i+1}$	0	0	0	0	0	1	1	1	1
final classes	...	0	0	0	0	0	1	1	1	1
	$K_{n-1}$	0	0	0	0	0	1	1	1	1
	$K_n$	0	0	0	0	0	1	1	1	1

The symbols 1 and 0 denote that elements of corresponding classes belong or do not belong to a certain  $CR$ . It should be noted that not all elements belonging to  $DR$  in the general  $DS$  enter  $CR$ .

Now we are going to consider  $CR$  (without the identity of environments) in the generator  $G_1$ .

#### Statement IV

The elements of the first class  $K_1$  of  $G_1$  do not contrast with elements of the last class  $K_n$  of  $G_1$  in any pair of strings generated by  $G_1$ .

#### Proof

Let us assume that the contrary is true.

Let  $U_g, U_h$  be two strings generated by  $G_1$  whose elements  $a_i$  and  $b_n$  ( $a_i \in K_1, b_n \in K_n$ ) contrast with an index  $i$  (the latter is possible if zero-elements are chosen in generating process):

$$U_g = \dots (a_i)_i \dots$$

$$U_h = \dots (b_n)_i \dots$$

According to the definition of  $G_1$ , the elements of the medial class are situated on the right of  $(a_i)_i$  in  $U_g$  and on the left of  $(b_n)_i$  in  $U_h$ .

The assumption was false, since  $a_i$  and  $b_n$  cannot occur in the same position.

#### Statement V

The elements of the first class ( $K_1$ ) of  $G_1$  do not contrast with any elements of final classes of  $G_1$  in any pair of strings generated by  $G_1$ .

Proof:

Let the contrary be true. Let  $U_g$  and  $U_h$  be a pair of strings, where elements  $a_1$  and  $b_m$  occur at the  $i$ -place ( $a_1 \in K_1$ ,  $b_m \in K_m$ ,  $K_m$  being one of the final classes of  $G_1$ ). The string  $U_g$  including  $a_1$  does not contain any element to the left of  $a_1$ . The string  $U_h$  including  $b_m$  contains at least one element to the left of  $b_m$ —namely  $\bar{v}_e$  ( $\bar{v}_e \in V_e$ ,  $V_e$  being the medial class of  $G_1$ ).

That means (contrary to our supposition) that the elements  $a_1$  and  $b_m$  cannot occur at the same place in strings  $U_g$  and  $U_h$ .

Statement VI

Elements of the last class ( $K_n$ ) of  $G_1$  do not contrast with any elements of initial classes of  $G_1$  in any pair of strings generated by  $G_1$ .

The statement may be proved analogously to statement V.

It may be assumed that  $a_n$  ( $a_n \in K_n$ ,  $K_n$  being the last class of  $G_1$ ) and  $b_m$  ( $b_m \in K_m$ ,  $K_m$  being any of initial classes of  $G_1$ ) occur at the same  $i$ -place in strings  $U_g$  and  $U_h$ . Since there is no element to the right of  $a_n$  and there should be at least one element  $\bar{v}_e$  ( $\bar{v}_e \in V_e$ ,  $V_e$  being the medial class of  $G_1$ ) to the right of  $b_m$ , the elements  $b_m$  and  $a_n$  cannot occur at the same place in the strings.

Our assumption was wrong and the statement is true.

Statement VII

The elements of any initial class of  $G_1$  (except the first class  $K_1$ ) contrast with the elements of any final class of  $G_1$  (except the last class  $K_n$ ).

Proof

At first let the case be considered, when, the number of initial classes of  $G_1$  is equal to the number of final classes of  $G_1$ .

Let us consider such pairs ( $U_g$ ;  $U_h$ ) of strings that  $U_g$  contains an element of the medial class of  $G_1$  as the first element of the string and  $U_h$  contains an element of the medial class of  $G_1$  as the last element of the string.

The elements of the strings situated between an element of the medial class of  $G_1$  and elements of the first or of the last classes of  $G_1$  may be regarded as generated by a sub-generator  $G'_0$  of  $G_1$  according to definitions 16 and 21. But that means that any pair of elements of  $G'_0$  contrasts in some strings generated by  $G_1$ . Now let the number of initial classes of  $G_1$  not coincide with the number of final classes of  $G_1$ . Suppose that one of them exceeds the other by  $m$  classes. Every time any  $m$  classes are represented by the zero-element we obtain the case discussed above.

The  $CR_3$  (without the identity of environment) in  $G_1$  may be represented by the following matrix:

	$K_1$	$K_2$	...	$K_i$	...	V	...	$K_l$	...	$K_{n-1}$	$K_n$
$K_1$	1	1	1	1	1	1	0	0	0	0	0
$K_2$	1	1	1	1	1	1	1	1	1	1	0
...	1	1	1	1	1	1	1	1	1	1	0
$K_i$	1	1	1	1	1	1	1	1	1	1	0
...	1	1	1	1	1	1	1	1	1	1	0
V	1	1	1	1	1	1	1	1	1	1	1
...	0	1	1	1	1	1	1	1	1	1	1
$K_l$	0	1	1	1	1	1	1	1	1	1	1
...	0	1	1	1	1	1	1	1	1	1	1
$K_{n-1}$	0	1	1	1	1	1	1	1	1	1	1
$K_n$	0	0	0	0	1	1	1	1	1	1	1

Thus we have investigated certain properties of CR and obtained two matrices for it according to both concepts of contrast.

Next we shall show that, in spite of the fact that not all the elements of strings generated by  $G_1$  belong to CR, the integrating DS coincides with the general DS.

In our further reasoning the CR (contrast relation) will be understood as CR with identical environments. The classes of  $G_1$  may be divided into three groups: Groups A and C contain classes whose elements do not belong to CR mutually, i.e. any pair (a, c) ( $a \in A$ ,  $c \in C$ ) is not contrasted in any pair of strings generated by  $G_1$ . Group B contains those classes whose elements contrast with elements of both A and C classes.

Groups A and C may be considered as polar and group B as intermediate.

We must remember that CR is regarded in this article as a basis for integrating DS in  $G_1$ , whose elements should include those differentors that have been exposed in contrast.

#### Definition 22

DS resulting from CR between the elements of a polar and intermediate groups of classes in  $G_1$  will be called here a sub-system of the integrating DS in  $G_1$ .

Two statements could be made to show the connections between CR and the integrating DS in  $G_1$ .

#### Statement VIII

Two elements  $a_1$ ,  $a_n$  comprised of identical latent differentors (i.e.  $a_1$  and  $a_n$  represent the same element of the general DS), such that  $a_1$  belongs to the first, and  $a_n$  to the last class of  $G_1$ , could be represented by various exposed differentors in both sub-systems of the integrating DS in  $G_1$ .

#### Proof

The statement would be true if an example could be constructed.

It is possible to construct a class of examples of the kind.

Let differentor  $\alpha$  be a latent differentor in  $a$ . Two sub-systems of the integrating DS

in  $G_1$  include  $a_1$  and  $a_n$  respectively. If every element of one sub-system contains  $\alpha$  and there is one pair of elements at least in the other sub-system such that one element of the pair includes  $\alpha$  and the other does not, the elements  $a_1$  and  $a_n$  would be represented by various exposed differentors: differentor  $\alpha$  would be exposed in one of them and not in the other.

#### Statement IX

One and the same element of the integrating DS in  $G_1$  belonging to the intermediate group of classes can be represented by various exposed differentors in both sub-systems of the integrating DS in  $G_1$ .

#### Proof

Let  $c$  be an element of an intermediate class in  $G_1$  containing differentor  $\alpha$ . If all elements of one sub-system include  $\alpha$  and only part of the elements of the other sub-system does not include it, element  $c$  belonging to the intermediate class would possess  $\alpha$  in the second sub-system and would not possess it in the first sub-system.

#### Statement X

Any element  $a$  of the integrating DS of the generator  $G_1$  can include a latent differentor  $\alpha$ , only in the case  $\alpha$  belongs to every element of the integrating DS.

#### Proof

Let  $\alpha$  be a latent differentor in  $a$  and let  $b$  be an element of the integrating DS that does not include  $\alpha$ .

If  $a$  and  $b$  are contrasted,  $\alpha$  cannot be latent according to definition 14.

If  $b$  doesn't contrast with  $a$ ,  $b$  should contrast with an element  $c$  belonging to an intermediate class. If  $c$  contains  $\alpha$ ,  $\alpha$  should be exposed in it. Since  $a$  contrasts with  $c$ ,  $\alpha$  should also be exposed in  $a$ , otherwise a DR would falsely be established between  $a$  and  $c$ . If  $c$  doesn't contain  $\alpha$ , the differentor  $\alpha$  should be exposed in  $a$ , since  $a$  contrasts with intermediate element  $c$ .

It may be concluded from the above given statement that the integrating DS coincides with the general DS of the generator  $G_1$ . First of all it would be convenient to specify the notion of the integrating and general DSs. The two DSs may be called identical, if any pair of corresponding elements where one element belongs to the integrating DS and the other to the general DS, consists of the same differentors.

It must be remembered that every differentor of the general DS differentiates certain elements. According to the statement 10, the elements of the integrating DS don't contain latent differentors except for those that are common to all elements.

#### Conclusion

We have shown in this article that the types of the contrast relation are determined by the type of the generator.

However, whatever type of CR is chosen, the integrating DS would coincide with the general DS.

Thereby we have obtained full confirmation of N. S. Trubetzky's conception reviewed earlier.

The obtained result, i.e. the constant coincidence of difference relations in the general and integrating DS by various types of CR, demands an explanation. In the author's opinion the CR approach reflects the analytical (the hearers') view-point.

Analogously the general DS reflects the synthetical view-point. The identity of the two DSs may be explained by a close connexion between the analytical and the synthetical aspects in speech activities as well as by the predominance of the latter.

The very existence of CR presupposes that the analytical process of differentiation should have peculiar ways, i.e. the contrasted elements which may be different in various types of the generator, are differentiated earlier than non-contrasted elements.

THE INSTITUTE OF ORIENTAL STUDIES,  
THE ACADEMY OF SCIENCES, U. S. S. R.

#### Works cited or used in the article

1. J. Cantineau  
"Le classement logique des oppositions" *Word*, Vol. I, 1945.
2. E. Fischer-Jørgensen  
"The Phonetic Basis for Identification of Phonemic Elements"  
*JASA*, Vol. 24, 1952, pp.
3. R. Jakobson and M. Halle  
*Fundamentals of language*  
Copenhagen 1956
4. S. Marcus  
"Logičeskij aspekt lingvističeskich opozicij"  
*Problemy strukturnoj lingvistik* 1963  
Moscow 1963 ser. 47-
5. J. W. F. Mulder  
"Some operations with sets in linguistics"  
*Foundations of language*, Vol. I, No. 1, 1965, 14-20.
6. S. K. Šaumjan  
*Problemy teoretičeskoj fonologii*  
Moscow, 1962.
7. N. S. Trubetzkoy  
*Grundzüge der Phonologie*  
*TCLP*, Vol. VII, 1939.
8. G. Ungeheuer  
"Das logische Fundament binären Phonemklassifikationen"  
*Studia linguistica* XIII, No 2, 1959, pp. 69-98.

# SIMULTANEITY IN SPEECH AND WRITING

GIULIO C. LEPSCHY

One of the few, but often repeated points, made by the pop-culture prophet Marshall McLuhan is that simultaneity is a feature of oral as against written communication.<sup>1</sup> It is surprising to read a statement which appears to be to the same effect in an article by such a sober linguist as R.A. Hall, Jr.: "our tendency to treat all phonemic phenomena as if they followed each other in time, is due to our wish to represent them with the one-after-another symbols provided by our graphemic systems."<sup>2</sup>

It is perhaps possible to turn this statement upside down, and to say first that the "one-after-another" sequence of graphic symbols tries to convey that phonic phenomena follow each other "in time"; and secondly that the "one-after-another" sequence of the written marks does not in itself imply any temporal sequence. Here the linguist needs the aid both of the philosopher and of the psycho-physiologist who studies the working of our sensory system. The first may tell him that it is impossible to separate time- and space-relationships, and the second that our "five" senses are not five at all, but are in certain respects many more (and all interrelated in a very complex way), and that in other respects they converge into a sort of single bottleneck in the central nervous system. But, in spite of this, there is a context (if only that of ordinary language: in it our experiences are expressed; with it technical languages must be constructed and interpreted; into it the result of particular sciences must in the end be translated if they are to be meaningful) in which we do distinguish hearing from sight, and time from space.

In this context it seems to me that there is an important distinction between time, connected with hearing (listening to what is said), on the one hand, and space, connected with sight (reading what is written), on the other. In speech there are temporal (and not spatial) relationships between the segments into which the spoken and heard chain can be articulated; in writing there are spatial (and not temporal) relationships between the segments into which the written and read image can be articulated. In other

---

<sup>1</sup> Cf. M. McLuhan, *The mechanical bride. Folklore of industrial man*, New York 1951; Id., *The Gutenberg galaxy*, London 1962; Id., *Understanding media*, London 1964; Id., *The medium is the message*, London 1967; Id., *Verbi-voco-visual explorations*, New York 1967. It must be added in fairness that "oral" does not necessarily mean "oral": "Oral means 'total' primarily, 'spoken' accidentally . . . . Intuition and invention are oral, total, implicit, inclusive, simultaneous" one reads in "Item 1" of the last quoted book.

<sup>2</sup> Cf. R.A. Hall, "A theory of graphemics," *Acta Linguistica* 8.13-20 1960, p. 19.



words: the speech sounds come one after the other in time; the letters, in writing, come one to the left of (or to the right of, above or below) the other in space.

The fact that writing and reading take time, i.e. are activities which require a certain duration, is here irrelevant. If we think of the finished product, we can imagine a whole page being printed in one go (with say all its 500 words, or 2000 letters, from the first to the last, appearing simultaneously). This does indeed happen with the printing press, as opposed to the letter by letter progress of the typewriter. It is much more difficult to imagine a 500 word speech uttered in one go, with the first and the last word being pronounced simultaneously; this could be realized by 500 people uttering the 500 words simultaneously, or 2000 people uttering the 2000 speech sounds simultaneously. There would no doubt be a tremendous short burst of noise, which would be impossible for us (and at least very hard for a computer) to unscramble. The parallel in writing would not be printing 2000 letters simultaneously, in their normal spatial relationships, but printing them all on the same spot: the result would be a black blob, which again we would be unable to unscramble. This may depend on the different nature of time- and space-relationships: if we listen to a tape played backwards we hear a different series of sounds. The word *spots* will be heard as *stops*, in spite of the bit of tape remaining physically the same. But if we look at the printed word 'spots,' the word remains the same even if we scan it from right to left: it is characterized by its having a 'p' to the right of an 's,' and both to the left of an 'o,' and another 's' to the right of a 't,' and both to the right of the same 'o.' In order to write or read the word 'spots' we have to break down 'spots' letter by letter, and recompose it. What might perhaps correspond to *spots* played backwards on the tape is the specular image of 'spots,' i.e. 'stōpɹ,' which is quite different from 'stops.' Even if we forcibly introduce a succession in time, and show a person the letters of a word one at a time, one after the other, he will have to wait for the end, and "eliminate" the time succession, "remembering" all the letters simultaneously, for the word to make sense.

The distinction we are trying to make may appear to be blurred by the fact that, as we have seen, time is always there: a single glance at a printed mark, like a single hearing of a single speech sound, both have a certain duration, however short; they have a beginning and an end, which succeed each other in time. But this seems to be a different kind of time succession from the one which is involved in the unfolding of speech. We can analyse the single phoneme into distinctive features, or the speech sound into articulatory or acoustic features, which are simultaneous; in the same way we can analyse the single letter into graphic features or strokes which are analogously simultaneous. In our handwriting even the single letter is written with a process of gradual outlining, but the typewriter prints the single letter as a whole. It may appear that the spatial relationship between the vertical stroke and the eye in 'b' (i.e., the eye to the right of the stroke) is different from the spatial relationship between the 'b' and the 'e' in 'bed' (i.e., the 'e' to the right of the 'b'). That is, the 'b' is a Gestalt

which we can use or not use, and its parts belong for us to a unit (in spite of our being able to identify, at a further level of analysis, particular features like the stroke and the eye, which appear differently related to each other in different letters like 'q,' 'p,' 'd'). Our deep-rooted familiarity with alphabetic writing (and perhaps our intuition of the phonemes as separate units in our speech) suggests to us a relationship between 'bed' and 'deb' which is probably of a different nature from the relationship between 'b' and 'd.' But it is of course possible to think of the word 'bed' as a single unit, a Gestalt: in which case the parallelism between the pair 'bed'-'deb' and the pair 'b'-'d' appears more apt. And there is no reason why we should not be able to grasp as single units (Gestalten) whole words, or graphic stretches longer than words. This is probably what happens: when we read the word 'cat' we don't scan it, but grasp it as a unit; the same for 'the cat,' and perhaps for 'the cat is on the mat.' One can imagine a system of printing in which the page is far enough away to be all within our field of vision, and the print large enough to be easily read. In this case why should we not be able (or at least be able to train ourselves) to grasp a whole page (or, if a suitable printing technique could be elaborated, a whole work) at a single glance, as a Gestalt, without any scanning? As we have said, this is the way we grasp a letter, say a 't,' without scanning it, and without being able to say which stroke comes first, and which crosses which (the longer vertical, or the shorter horizontal one).

In this line of reasoning the example of Chinese characters imposes itself: it "may well lead one to conclude that our visual perception has a greater capacity than the aural one, that we can learn to recognize, reproduce, and remember a far greater number of distinct graphic than phonic functional units," as Ernst Pulgram has recently noted.<sup>3</sup>

Let us take (as a first approximation, for simplicity's sake) a Chinese character to correspond to a word, in spite of the fact that the character corresponds rather to what we would call a morpheme, in Chinese *zì* (字), than to what we would call a word, for which there is no ordinary word in Chinese: the learned term is *cí* (詞).<sup>4</sup> The pronounced and heard word has to (and cannot but) unfold in time: even if we may grasp it as a Gestalt, the word *àn* (按 "to press") listened to backwards will give something like *ná* (拿 "to take"), whereas the letters 'an' remain the same, whether they are scanned (from left, right, top, or bottom) or whether they are grasped as a whole. The written character too remains the same (in spite of there being a "normal" order in writing the strokes), whether it is scanned (from left, right, top, or bottom), or whether it is grasped as a whole. In a traditional page the characters used to be ordered in

<sup>3</sup> E. Pulgram, "Graphic and phonic systems: figures and signs," *Word* 21.208-24 1965, p. 217; and, as Pulgram adds, "ultimately, perhaps (and this is a question for neurologists, physiologists, and psychologists to ponder), the intrinsic difference may derive from the innate diversity of man's acoustic and optic constitution and behavior" p. 224.

<sup>4</sup> Cf. Y.R. Chao, "The logical structure of Chinese words," *Language* 22.4-13 1946, p. 4. In the present article I use *pīn-yīn* throughout.

columns, from top to bottom (and the columns were ordered from right to left, and the pages were counted from the first page when the book had the spine to our right, i.e., starting from what would have been in an English book the last page). But, as we have seen with the letters of the Latin alphabet, the character 土 (*tǔ* "earth"), if you scan it from the bottom, does not become the character 干 (*gān* "to concern"). No matter how we scan it (and if it is big enough for us not to be able to grasp it within our field of vision, we shall have to scan it) the character remains the same.

The problem of learning the less than thirty letters of the Latin alphabet does not present great difficulties: they can easily be remembered as Gestalten, without further analysis. But the problem of learning many thousands of Chinese characters as Gestalten is forbidding; hence the amount of work devoted to the graphic analysis of the characters. The widely used system of classifying all characters according to which radical they contain (usually one considers 214 radicals, as in the *Kāng xī* dictionary, ordered progressively according to the number of strokes—from 1 to 17—they contain), and, under each radical, according to the number of remaining strokes they contain, is far from simple. Quite apart from the large number of characters which are classified under the same radical, and from the difficulty of identifying the radical in many characters, this system implies a knowledge of the number of strokes involved in each radical and in the remaining part of each character. If we take into account the traditional different styles of script (such as the scribe, *lǐ*, the regular, *kāi*, the running, *xíng*, and the cursive, or grass, *cǎo*) we have also to know the order in which the strokes are written, to be able to account for the presence of extra lines which join different strokes in certain styles and not in others. In any case we have to know beforehand which the strokes are, otherwise there would be no way of guessing why, if 小 (*xiǎo* "small") has three strokes, also 口 (*kǒu* "mouth"), and 弓 (*gōng* "bow") have three. And, as we all know, people do not agree on the number of different strokes which are necessary for writing Chinese characters. The Chinese calligraphers seem to believe that there are 8 or 9 strokes (which can all be found in the character 永 (*yǒng* "eternal")). Western handbooks vary widely, from the 6 strokes (+4 variants and 5 angles) given by Simon, to the 9 strokes ("in theory," and 17 "in practice") given by Wiegner, to the 31 strokes given by Karlgren.<sup>5</sup> The difficulty of this whole question is illustrated by the large numbers of attempts which have been made to analyse the characters in order to obtain a practical system of classification.<sup>6</sup>

<sup>5</sup> W. Simon, *How to study and write Chinese characters*, London 1959, pp. xxix-xxx; L. Wiegner, *Chinese characters*, New York 1965, p. 12; B. Karlgren, *Easy lessons in Chinese writing*, Stockholm 1958, p. 5.

<sup>6</sup> One of the best known is the "four-corner" system, which does not take into account the order of strokes, but examines the four corners of a character (in the order: top left, top right, bottom left, bottom right), and assigns numerical figures to the different kinds of strokes in each corner. Cf. Y.W. Wong, *Wong's system of Chinese lexicography. The four-corner numerical system in arranging Chinese characters*, Shanghai 1926; cf. also the similar system due to W. Hung, *Indexing Chinese books*, s.l., 1930; V. Nash, "Numerical conversion: a key to the maze of Chinese literature," *Pacific Affairs*

It seems clear that the characters are Gestalten, and that to try and find distinctive features in them is extremely difficult (obviously much more so than for the letters of the Latin alphabet). The strokes in a character have spatial and not temporal relationships. This, I think, confirms the possibility which was mentioned at the beginning, of grasping whole words (or even larger units), in alphabetic writing, as Gestalten, in which there is not a succession, but a simultaneity of elements.

UNIVERSITY OF READING, ENGLAND

---

9.358-69 1936; V. Nash, *Trindex. An index to three dictionaries*, Peiping [1936]. The four-corner system, as well as other classifications, is used in the very useful *Chinese character index*, edited by Ching-yi Dougherty, S.M. Lamb, S.E. Martin, 5 vols., Berkeley and Los Angeles 1963.

# SOME TONAL IRREGULARITIES IN THE TAI LANGUAGES<sup>1</sup>

FANG KUEI LI

As the Tai family of languages consists of a group of fairly closely related languages, it is not too difficult to establish sets of correspondences of tones among them. However, there are cases which do not conform to these sets, and they vary in scope and in their implications. It is the purpose of this paper to discuss some types of irregularities in the course of comparing the different Tai languages and dialects, and to try to find a theory or theories to account for these irregularities.

We shall, first, present the regular tonal correspondences among three languages, selected as representatives of the three groups of Tai dialects or languages. Siamese is selected to represent the Southwestern group; Lungchow, the Central group; and Po-ai, the Northern group. The selection of these three languages is merely a convenient and simplified way of presenting the material, largely because we know the phonological structure of these three languages better. As we shall see later, we shall have to take into consideration other languages as well, in order to determine the scope of some of these irregularities.

There are four tones in Proto-Tai, designated by A, B, C, and D; and there are two allophones for each of the four tones, designated by the numerals 1 and 2. The numeral 1 indicates a tone developed normally from a voiceless initial consonant, and the numeral 2 indicates a tone developed normally from a voiced initial. Other phonetic features of the initial consonant, such as aspiration and glottalization, may influence the development of tones, but the influence is secondary, consisting of comparatively late and dialectal developments.<sup>2</sup> The regular tonal correspondences of these three languages are as follows:

	Siamese	Lungchow	Po-ai
A { 1	mid level 33 or	mid level 33	rising 24 or falling 31
2	rising 24		
2	mid level 33	mid falling 31	high level 55

<sup>1</sup> This is a part of my study in comparative Tai linguistics supported by the East-West Center and the University of Hawaii.

<sup>2</sup> Cf. my article, "The Relationship between Tones and Initials in Tai," in Norman H. Zide (Ed.), *Studies in Comparative Austroasiatic Linguistics*, Mouton and Co., 1966.

B	1	low level 22	high level 55	low level 22
	2	falling 41	low level 11	falling 31
C	1	falling 41	rising 24	mid-high level 44
	2	high 453 or 55	low falling 21	mid level 33
D	1	S low level 22 L	high level 55	high level 55 or mid-high level 44
				low level 22
	2	S high 55 L falling 41	mid falling 31	mid-high level 44
				falling 31

When a tone becomes two tones or more, such as A 1 becomes mid-level or rising in Siamese, and rising or falling in Po-ai, etc., the conditions for such splits can be determined, and have been given elsewhere.<sup>3</sup> The tones in Siamese, Lungchow, and Po-ai will be designated here simply as A 1, A 2, B 1, B 2, C 1, C 2, etc., without referring to their pitch contours such as mid-level 33, rising 24, etc., unless necessary.

Some irregularities are extremely restricted in scope, occurring only in one dialect or in one language. In a language where the phonological system is well described, and the data are extensive and reliable, such irregularities should be seriously considered and, if possible, explained. Of course in many Tai languages the data are not very reliable, particularly in regard to tones; and irregularities found in the material of such languages are difficult to explain.

An example of this type of irregularity is the following set of correspondences:

	Siamese	Lungchow	Po-ai
"all"	than C 2	tan A 2	tan A 2

The Siamese form shows a tone corresponding to C 2, different from the other two languages which show tones corresponding to A 2. If we examine the available material from the Southwestern group of Tai languages, of which Siamese is a member, we find that Lao (Guignard), Shan (Cushing), Lü (Li), and Black Tai (Diguét) all show tones corresponding to A 2, thus agreeing with Lungchow and Po-ai. This irregularity is then restricted to Siamese or Standard Thai only. One would expect that the Standard Thai form would spread into various local dialects, replacing local forms or making possible the existence of doublets in some dialects. It would be an extremely important lexical item for dialectology in Thailand.<sup>4</sup>

Fortunately Siamese has a literature, the oldest of which is the inscription of King

<sup>3</sup> Cf. my article, "The Tai and the Kam Shui Languages," *Lingua* 14 (1965), pp. 150-152.

<sup>4</sup> Cf. Herbert C. Purnell, *A Short Northern Thai-English Dictionary* (1963), where *tan* is given as having a tone corresponding to A 2 (p. 98). J.M. Brown in his study of Thai dialects, *From Ancient Thai to Modern Dialects* (1962 Doctoral Dissertation) unfortunately did not include this word.

Ramakamhaeng of the Sukhoday Dynasty at the end of the thirteenth century. It is possible to trace the history of this word in the Siamese documents, but this has not been done by Thai philologists. What can be offered here is a very sketchy examination of some documentary evidence and a tentative theory as to the emergence of this irregular tone.

This word for "all" occurs several times in the inscription of Ramakamhaeng, always spelt without a tone mark,<sup>5</sup> thus indicating that the word had tone A2, and not C2 as it has now. I have examined some of the manuscripts of the late eighteenth and the early nineteenth century, and have found this word still spelt without any tone mark. My knowledge of Siamese manuscripts is extremely limited, and must leave the question of the first emergence of the modern spelling (with tone mark 2) to future studies.<sup>6</sup>

If the word *than* with the high tone is to be considered as a kind of intensifier in such expressions as *than* C2 *saam* A1 *nii* C2 "all these three," *than* C2 *wan* A2 "all day," *than* C2 *mot* D1S "all, the whole lot," etc., it has the typical high tone (identified with C2) used in the first syllable of intensifying reduplications, such as *dii* C2 *dii* A1 "good," as noted by Haas.<sup>7</sup> Such an intensifying high tone, however, need not be restricted to reduplications. One often hears the form *ʔa-rai* (normally mid-level) "what?" spoken with the last syllable raised to the high tone, denoting emphasis and impatience. It seems plausible that the modern Siamese word *than* C2 originally had the tone A2, but derived its high tone (C2), from the process of intensification. This intensifying tone was later generalized and has replaced the original tone (A2), which, however, was preserved in practically all other closely related dialects.

This irregular tone in Siamese is offered here as a type, because we know something of the morphophonemic processes in Siamese to enable us to offer at least a hypothesis for the emergence of such an irregularity. Similar irregularities occur here and there in various languages in dialects, but no explanation can be safely offered.

For a somewhat different type of tone irregularity, we may note the following set of correspondences:

	Siamese	Lungchow	Po-ai
"elder sibling"	phii B 2	pī B 2	pīi C 2

Siamese and Lungchow agree in having tones corresponding to tone class B 2, while Po-ai has, instead, a tone corresponding to C2. If we take into consideration only the three languages quoted here, we find the irregularity in Po-ai similar to that in Siamese in the preceding set. But, if we take other languages into consideration, we find that practically all the Northern languages have tones corresponding to C2.

<sup>5</sup> Cf. G. Coedes, *Recueil des Inscriptions du Siam. Première Partie*, 1924.

<sup>6</sup> I acknowledge with thanks the support which the University of Washington gave me to study in the National Library, Bangkok, in the summer of 1967.

<sup>7</sup> Cf. Mary Haas, "Techniques of Intensifying in Thai," *Word* 2 (1946), pp. 127-130.

Thus the irregularity in Po-ai is not a restricted phenomenon. As a matter of fact, it may be used as a criterion to distinguish Northern dialects from the Southwestern and the Central dialects.

The explanation for this type of discrepancy is difficult. There are presumably three possibilities. First, we might assume that B 2 was the original tone class, because it is shared by two groups of languages, and that the Northern languages changed the tone to C 2 through contamination. The word for "elder sibling" is often associated and used together with the word for "younger sibling" to mean siblings in general. The word for "younger sibling" has tone C 2 in all dialects (cf. Siam. *ນ້ອງ* C 2). It is evident that this process of contamination must have taken place before the Northern group was separated into dialects, and could be considered as an innovation of the Northern group.

In a second explanation, we might assume that the Northern languages show the original tone (C 2), and that the Southwestern and the Central languages represent a shift of tone from C 2 to B 2. The Kam-Sui languages which are related to Tai, show tones corresponding to C 2, agreeing with the Northern languages.<sup>8</sup>

If the choice of one between these two explanations seems arbitrary, there is yet a third possibility: we can assume that there were doublets in the proto-language, showing tonal alternations, which are distributed geographically or dialectally. This solution is non-committal as to what the original tone (B 2 or C 2) was for this word, and non-committal as to how such doublets arose. The assumption of doublets always indicates some phonological discrepancy. The doublet, here, is presumably due to tonal alternation. Unless we can prove that tonal alternation is a morpho-phonemic process in the proto-language, such an explanation remains unsatisfactory. As we shall see later, there are indications that tonal alternations have been a morpho-phonemic process in Proto-Tai.

Below are listed some more examples of this type:

	Siamese	Lungchow	Po-ai
"widow"	maai C 1	maai C 1	maai B 1
"cotton"	faai C 1	phaai C 1	faai B 1
"shrimp"	kuŋ C 1	kuŋ C 1	kuŋ B 1
"to weave"	tam B 1	tam B 1	tam C 1
"vast, wide"	khwaan A 1	khwaan B 1	kwaan B 1
(Cf. same meaning	kwaan C 1	kwaan C 1	kwaan C 1)
"mother's younger	naa C 2	(Nung, Tay,	naa C 2
sibling"		Tho: na B 2)	

In these examples the discrepancies in tone follow normally the three major dialect groups, but there are also cases where they do not show agreement with the major

<sup>8</sup> Cf. "The Tai and Kam-Sui Languages," *op. cit.*, pp. 172-173.



dialect groupings, for instance:

	Siamese	Lungchow	Po-ai
"mother's mother"	jaai A 2 (but Lao <i>naai</i> A 2)	taai A 1 (but Tho <i>taai</i> B 1)	taai B 1 (but Wuming <i>taai</i> A 1)

Here Siamese differs from Lao (and other Southwestern dialects) in the initial consonant, the Central and the Northern groups have the same consonant, Pt *\*t-*, but have both tones A1 and B1 among their dialects. Thus the tonal alternation does not follow the major dialect groupings.

Another type of irregularity can be shown by the following example:

	Siamese	Lungchow	Po-ai
"to be, become"	pen A 1	pin A 2	pan A 2

The Siamese tone differs from that of Lungchow and of Po-ai, but it is not a restricted type, because practically all the Southwestern dialects show a tone corresponding to A1, and all Northern and Central dialects show a tone corresponding to A2. But the alternation of A1 and A2 is originally an allophonic alternation, conditioned by the alternation of a voiceless and a voiced initial. If we assume that there were doublets in the proto-language, the doublets did not show an alternation of tones, but rather an alternation of consonants (PT *\*pen* A and *\*ben* A). Is there a consonant alternation as a morphophonemic process in Proto-Tai to justify this type of doublets? It seems there are traces indicating that such a process must have existed (cf. *infra*), but its details are not yet known.

There are quite a number of examples for this type of tonal irregularity, for instance:

	Siamese	Lungchow	Po-ai
"wasp"	teen A 1	pheen A 1	tin A 2
"dense, thick"	thii B 1	thii B 1	tii B 2
"cup, glass"	thuai C 1	thuui C 1	tuui C 2
"rice"	khau C 1	khau C 1	hau C 2
"bitter"	khom A 1	khum A 1	ham A 2
"ear"	huu A 1	huu A 1	līi A 2
"male"	phuu C 1	phuu C 1	puu C 2
"to ride"	khii B 1	khwi B 1	kīi B 2

There are instances, comparatively rare, where the tone discrepancy would indicate different tone classes as well as different initials; for instance:

	Siamese	Lungchow	Po-ai
"joint, node"	khɔ C 1	(Nung: kho C 1)	hoo B 2

This word shows not only an alternation of tones C and B in the proto-language, but also an alternation of initial consonants *\*x-* and *\*ɣ-*. Some other examples may

be cited:

	Siamese	Lungchow	Po-ai
"gibbon"	khaaŋ B 2 (<*g-) (cf. Lü, Shan: kaŋ B 2)	kaŋ A1 (<*k-)	kaŋ A1 (<*k-)
"to overflow"	thuam C 1 (<*th-)	thuum C 1 (<*th-)	tum B 2 (<*d-)

Another type of tonal discrepancy occurs in words with tone D only, where vocalic lengths are reflected in the tonal development. Here are a few examples:

	Siamese	Lungchow	Po-ai
"child"	luuk D 2 L	luk D 2 (S)	lik D 2 S
"to tear"	chiik D 1 L	šiik D 1 (L)	fik D 1 S
"to-morrow"	phruk D 2 S	pjuk D 2 (S)	šook D 2 L

Length indications in the Lungchow Forms are cited in parentheses, because in that language tone class D develops without regard to vocalic lengths, but there are many languages which show different developments according to vocalic lengths, such as Siamese or Po-ai. The list here shows the differences in vocalic length which in turn give rise to different tone correspondences. There are also languages where the vocalic length distinction is lost at the present time, presumably in a fairly late date after the development of tones according to vocalic lengths had already taken place. In such languages the tone correspondences to other languages are regular, but the vocalic length is obliterated.<sup>9</sup>

The difference in vocalic lengths in these languages follow on the whole normal development of the vocalic system from Proto-Tai, and therefore we need not reconstruct doublets with different vocalic quantities. The development of the Proto-Tai vocalic system is a very complicated affair, and is beyond the scope of this paper.

To summarize briefly the tonal irregularities in the various Tai languages, we find that they indicate 1) tonal alternations in Proto-Tai, 2) consonant alternations in Proto-Tai, and 3) a combination of both. These are the types for which we have to reconstruct doublets in Proto-Tai. We shall not consider for the time being other types because doublets need not be assumed for them in the proto-language.

To justify the reconstruction of these doublets in Proto-Tai, it is necessary to demonstrate that tone alternations and consonant alternations have been morphophonemic processes in the proto-language.<sup>10</sup>

1) Tone alternations as a morphophonemic process. We shall first examine a few cases in Siamese where such alternations can be demonstrated. For example, *khaa* B 2 "price," but *khaa* C 2 "to trade"; *siam* A1 "a pointed instrument, spade, hoe,"

<sup>9</sup> Cf. William J. Gendey, "Yay, a Northern Tai Language in North Vietnam," *Lingua* 14 (1965), pp. 191-192.

<sup>10</sup> This was first suggested by August Conrady, *Eine indochinesische Causativ-Denominativ-Bildung und ihre Zusammenhang mit den Tonaccenten*, Leipzig 1896, but very little has been done in recent years to follow this up.

but *siam* C1 "to sharpen to a point"; *koŋ* A1 "circle, wheel," but *koŋ* B1 "to bend"; *khan* A2 "small dike separating the rice fields," but *khan* B2 "to separate, to divide"; *čum* B1 "to soak," but also *čum* C1 "to soak." These cases seem to show that the contrast of tones corresponds to the contrast of nominals versus verbals, except the last pair of examples, which are both verbal, and, as a matter of fact, are synonymous. We are not clear whether such contrasts show an original derivation of denominative verbs from nouns or of resultative nouns from verbs, and this is complicated by the fact that there is a strong tendency to use the same form as noun and verb in most dialects. That these contrasts are not restricted to Siamese alone, can be demonstrated by the fact that there are corresponding contrasts in other languages such as Po-ai *kaa* B2 "price," but *kaa* C2 "to trade"; *koŋ* C1 "curved (nose)," but *koŋ* B1 "to bend (one's body to pick up things)"; etc.

2) Alternations of original initial consonants, voiceless versus voiced. Here we shall also take some examples from Siamese, such as *čum* B1 (also C1) "to soak," but *čhum* B2 "soaked, wet"; *khiau* C1 "canine tooth," but *khiau* C2 "to chew"; *khot* D1S "to coil, curled up," but *khot* D2S "to bend, crooked"; *nii* C1 "this place, here," but *nii* C2 "this," etc. These pairs of examples show contrasts of the type \*č-: \*j-, \*x-: \*ɣ-, \*kh-: \*g-, and \*hn-: \*n-. It seems that the relationship between these pairs of words cannot be denied, although the exact function of the derivational process, namely consonant alternation, cannot be defined at the moment. That such an alternation is not a restricted Siamese phenomenon can be shown by remnants of it in other languages. For example Po-ai *šum* B1 "to soak," but Wu-ming *šum* C2 "soaked, wet" (cf. Siam. *čum* C1); Po-ai *heeu* C1 "tooth," but *čeeu* C2 "to chew"; Lungchow *nai* C1 "this," but *nai?* C2 in *kaa* A1 *nai?* C2 "now"; Po-ai *nii* C1 "this," but Wu-ming *nai* C2, Dioi *ni* C2, etc.

3) Combination of tone and consonant alternations. Here are a few examples from Siamese: *khiau* A2 "sickle," but *kiau* B1 "to cut with a sickle," *koŋ* A1 "bent, crooked," but *khoŋ* C2 "to be bent, curved" (cf. *koŋ* A1 "circle, wheel," and *koŋ* B1 "to bend"); *nɔɔi* C2 "small, little," *nɔɔi* B1 "a little bit." These examples not only show alternations of tone classes, such as A versus B or C, but also alternations of consonants, such as \*k- versus \*g-, \*n- versus \*hn-, etc. Traces of this type can also be found in other languages, such as Shan *koŋ* B1 "to bend; bow," but *koŋ* A2 "spinning wheel"; Lungchow *keeu* A2 "scissors," Wu-ming *keu* A2 "scissors," but Po-ai *čiiu* C2 "scissors." The tendency to use one form for both noun and verb, while Siamese has two forms, can be illustrated by Lao (Guignard) *kiau* B1 "to reap," which also means "sickle."

We are not sure about the functions of such alternations, the apparent one is the contrast of nouns and verbs. Different dialects may also reflect different functions, but it is clear that they must have been important morphological processes in Proto-Tai. This situation—processes with ill-defined functions and a strong tendency to level out alternate forms by generalizing one in each language—gives rise to the irregu-

larities in the tonal correspondences in the various Tai languages and makes us reconstruct doublets. It is not intended here to make a thorough study of such morphological processes, which would be a special study by itself, but rather to justify the reconstruction of doublets on the basis of morphophonemic alternations. We may also note that such morphophonemic processes are known in Tibetan and in Chinese as well.<sup>11</sup> Their functions there too are complicated and need clarification in spite of the fact that Chinese scholars have commented on them since the beginning of the Christian era in their study of the Chinese classics.

UNIVERSITY OF WASHINGTON, U. S. A.

---

<sup>11</sup> Cf. G.B. Downer, "Derivation by Tone Change in Classical Chinese," *BSOAS* 22 (1959), 258-290.

# REMARKS ON SOME ROOTS AND STEMS IN MODERN MONGOLIAN

SHADABYN LUBSANVANDAN

Much more attention is paid to the structure of the words in Altaic by Kotwicz who states that the roots in the languages in question are either monosyllabic or bisyllabic, whereby the syllables may be either open or closed. Kotwicz proceeds further and distinguishes between roots and themes. He defines the theme as a stem which does not occur as an independent word, e.g. Mo *dege-* in *dege-re* "above, on," *deg-* in *deg-de-* "to rise," etc.

Roots constitute the nuclei of all words. Derivational suffixes constitute the cover of the words. The roots are the bearers of the common contents, while the stems are bearers of the concrete contents. The derivational suffixes serve to form stems, while the inflectional suffixes do not form stems. The roots can not occur before inflectional suffixes, while the stems can occur before inflectional suffixes. The stems or words are signals for objects, while the inflectional suffixes are signals for relationships between signals for objects. Mongolian inflectional suffixes are divided into four classes: 1. nominal case suffixes, 2. verbal case suffixes (converbial suffixes), 3. nominal possessive suffixes, 4. verbal possessive suffixes (indicative and imperative suffixes).

Mongolian words are divided into two large classes:

1. inflected words
2. non-inflected words

Further Mongolian inflected words are divided also into two large classes:

1. nominals
2. verbals

The broadest and comprehensive classes of morphemes in Mongolian are roots and affixes. Mongolian derivational and inflectional suffixes are affixes which follow the roots.

The affixes and some roots in Mongolian have numerous varieties or allomorphs. An allomorph is a variant of a morpheme which occurs in certain definable environments. Two allomorphs of a morpheme are mutually exclusive, at the same time mutually complementary as it is said in Nagarjuna's relativism (no destruction nor production, no persistence nor annihilation, no coming nor going out, no plurality nor unity) or Niels Bohr's complementary principle (light=particles-wave). A

morpheme is in relation to allomorphs a set of abstractions (in Nagarjuna's term is a *sūnyatā* or *dharmakāyā*), but in relation to other morpheme is a concrete phoneme or a combination of phonemes. This way the allomorphs are concrete manifestation of a morpheme (in Nagarjuna's term is a *māyā* or *nirmāṇākāyā*).

In this article we shall discuss a few modern Mongolian roots and stems.

Root *de-* has four common allomorphs (*de-*, *deḡ-*, *deḡxe-*, *deg-*). The allomorph *de-* occurs before nominal primary stem formatives *-ē* (*de-+ē>dē+ūr>dēgūr* (instrumental) "above," "over," *dē-+ši>dēši* (directive) "up, upward"), *-w* (*de-+w>dew* "terrace, hillock"), *-l* (*de-+l>del* "mane of a horse"), and verbal primary stem formative *-we* (*de-+we>dewe-* "to wave, flap"). The allomorph *deḡ-* occurs before nominal primary stem formative *-ḡzi* (*deḡ-+ḡzi>dēḡzi* "terrace, hillock"), and verbal primary stem formative *-de* (*deḡ-+de>dende-* "to exceed"). The allomorph *deḡxe-* occurs before nominal primary stem formative *-r* (*deḡxe-+r>deḡxer* "very tall or high"), and verbal primary stem formatives *-i* (*deḡxe-+i>deḡxi-* "to be very high, tall or large"), *-lḡze* (*deḡxe-+lḡze>deḡxelḡze-* "to wiggle"). The allomorph *deg-* occurs before verbal primary stem formatives *-de* (*deg-+de>degde-* "to fly up"), *-ḡzi* (*deg-+ḡzi>degḡzi-* "to rise, develop").

Further the nominal primary stem *dē-* occurs before nominal secondary stem formatives *-r* (*dē-+r>dēr-* "above, on"), *-de* (*de-+de>dēde-* "upper, above, high"), *-l* (*dē-+l>dēl* "top coat"), *-wer* (*dē-+wer>dēwer* "felt covering of the upper part of yurt"), *-ḡzi* (*dē-+ḡzi>dēḡzi* "the first of food or drink"). The *dē-*, *dēr-*, *dēde-* are three different stems of the same word. In Khalkha Mongolian the stem is *dēr-* in all cases except instrumental (*dēgūr*), directive (*dēši*), and genitive (*dēdīḡ*).

The nominal primary stem *dew-* occurs before nominal secondary stem formative *-ši* (*dew-+ši>dewši-* "to rise, go up").

The verbal primary stem *dewe-* occurs before verbal secondary stem formative *-r* (*dewe-+r>dewer-* "to spout, bubble up"), *-l* (*dewe-+l>dewel-* "to spout, bubble").

The verbal primary stem *del-* occurs before nominal secondary stem formative *-xi* (*del-+xi>delxi* "earth, world, universe, cosmos"), and verbal secondary stem formative *-ge* (*del-+ge>delge-* "to spread, display, open").

Bound root *do-* occurs before nominal primary stem formative *-ū* (*do-+ū>dō-+ūr>dōrūr* (instrumental) "low, under"). The nominal primary stem *dō-* occurs before nominal secondary stem formative *-r* (*dō-+r>dōr-* "low, under"). The *dō-*, *dor-*, *dōr* are three stems of the same word. The stem *dōr-* in all cases except instrumental (*dōrūr*), directive (*dōši* or *dorogši*).

Free root or primary stem *doto-* occurs before relative nominal secondary stem formatives *-r* (*doto-+r>dotor-* "in, among, within"), *-n* (*doto-+n>doton-* "in, inner"), and non-relative nominal secondary *-r* (*doto-+r>dotor-* "inner part of a thing"). The *doto-*, *dotor*, *doton-* are three stems of the relative nominal *dotor*. The stem is *dotor* in all cases except instrumental (*dotūr*), directive (*dotogši*), genitive (*dotonīḡ*).

Free root or nominal primary stem *gada-* occurs before relative nominal secondary

stem formative *-n* (*gada*-+*-n*>*gadan*- "outer, outside") and non-relative nominal secondary stem formative *-r* (*gada*-+*-r*>*gadar*- "exterior part"). The *gada*-, *gadan*-, are two stems of the relative nominal *gadan*-. The stem is *gadan*- in all cases except instrumental (*gadūr*), directive (*gadagši*).

Bound root *ya*- has three allomorphs (*ya*-, *yam*-, *yu*-). The allomorph *ya*- occurs before verbal primary stem formative *-ā* (*ya*-+*-ā*>*yā*- "how to act"). The allomorph *yam*- occurs before nominal primary stem formative *-r* (*yam*-+*-r*>*yamar* "what").

The allomorph *yu*- occurs before nominal primary stem formatives *-ū* (*yu*-+*-ū*>*yū*- "what") and *-ma* (*yu*-+*-ma*>*yuma* "thing").

Root *bi*- has three allomorphs */bi*-, *mi*-, *na*-. The allomorph *bi*- occurs before nominative case suffix (zero morpheme). The allomorph *mi*- occurs before nominal genitive stem formative *-n* (*mi*-+*-n*>*mīn*-+*i*>*mīnī*- "my"). The allomorph *na*- occurs before nominal accusative stem formative *-m* (*na*-+*-m*>*nam*-+*aig*>*namaig* "me") and nominal dative ablative, instrumental, comitative, directive stem formative *-da* (*na*-+*-da*>*nada*-+*da*>*nadada*, *nada*-+*-as*>*nadās*, *nada*-+*-ār*>*nadār*, *nada*-+*-tai*>*nadatai*, *nada*-+*-rū*>*nadarū*). The *bi*-, *nama*-, *nada*-, *min*- are four stems of the same word.

Root *tši*- has two allomorphs */tši*-, *tša*-. The allomorph *tši*- occurs before nominative case suffix (zero morpheme), and nominal genitive stem formative *-n* (*tši*-+*-n*>*tšin*-+*i*>*tšinī*- "your"). The allomorph *tša*- occurs before nominal accusative, dative, ablative, instrumental, comitative, directive stem formative *-ma* (*tša*-+*-ma*>*tšama*-+*aig*>*tšamaig*, *tšama*-+*-da*>*tšamada*, *tšama*-+*-ās*>*tšamās*, *tšama*-+*-ār*>*tšamār*, *tšama*-+*-tai*>*tšamatai*, *tšama*-+*-rū*>*tšamarū*). The *tši*-, *tšin*-, *tšama*- are three stems of the same word.

Bound root *e*- has four allomorphs */e*-, *ū*-, *i*-, *ô*-. The allomorph *e*- occurs before nominal nominative and directive stem formative *-n* (*e*-+*-n*>*en*- "this"), *-de* (*e*-+*-de*>*ede*- "they"). The allomorph *ū*- occurs before nominal instrumental stem formative *-ū* (*ū*-+*-ū*>*ū*-+*-ēr*>*ūgēr*). The morpheme *i*- occurs before nominal directive stem formative *-i* (*i*-+*-i*>*i*-+*ši*>*iši* "in this side"). The allomorph *ô*- occurs before nominal stem formative *-dī* (*ô*-+*-dī*>*ôdī* (*ôdūi*) "so many, so much"). The *en*-, *ū*-, *i*- are three stems of the same word. Further the nominal instrumental stem *ū*- occurs before nominal dative, accusative, comitative, ablative stem formative *-n* (*ū*-+*-n*>*ūn*-+*-de*>*ūnde*, *ūn*-+*-ig*>*ūnīg*, *ūn*-+*-tei*>*ūntei*, *ūn*-+*-ēs*>*ūnēs*). The nominal nominative, directive stem *en*- occurs before nominal instrumental stem formative *-ū* (*en*-+*-ū*>*enū*-+*-ēr*>*enūgēr*).

The nominal instrumental stem *enū*- occurs before nominal accusative, comitative, ablative, genitive stem formative *-n* (*enū*-+*-n*>*enūn*-+*-ig*>*enūnīg*, *enū*-+*-n*>*enūn*-+*-tei*>*enūntei*, *enū*-+*-n*>*enūn*-+*-ēs*>*enūnēs*, *enū*-+*-n*>*enūn*-+*-i*>*enūnī*).

# PHONEMES—FORM VERSUS SUBSTANCE

BERTIL MALMBERG

Two structural traditions have been said to emanate directly from Ferdinand de Saussure: Prague phonology as worked out in Trubetzkoy's, Jakobson's, Mathesius', Vachek's and the other famous Prague phonologists' works; and Hjelmslev's glossematics as presented in his *Omkring Sprogteoriens Grundlæggelse* (1943; Engl. translation by F.G. Whitney, 2nd ed. 1961). In this paper I would call the attention of phoneticians to a problem of phonemic description whose solution on the one hand is directly connected with a profound theoretical difference between the two, on the other, as a consequence of recent phonetic and phonemic research, has become more complicated today than it seemed to be some 15–20 years ago.

For Trubetzkoy and the Prague group the phoneme is a functional sound element distinguished from all other elements in the system by a limited number of distinctive features which, for the most part, in Trubetzkoy's own presentation of the doctrine were articulatory qualities.<sup>1</sup> Later phonologists have replaced these by essentially acoustic (spectrographic) facts or by a mixture of purely acoustic and more or less auditory elements. In Jakobson-Fant-Halle's system of distinctive features<sup>2</sup> this latter mode of description was for the first time systematically applied. Already in his contribution to the first Jakobson Festschrift (*For Roman Jakobson*, 1956, pp. 169–173) D.B. Fry took up the question whether the features were to be looked upon as acoustic or as perceptual. And quite recently, in the second Jakobson volume (*To Honor Roman Jakobson*, 1967) Gunnar Fant and myself have, from different points of view, recommended a re-interpretation of these distinctions in purely perceptual terms.

The feature concept has come to play a particularly important part in the generative grammar. Features, not phonemes, specify the expression structure of a phrase. Under such conditions, it seems important to make a few critical remarks on the concept as such in the light of recent research.

1. Until a sufficient amount of research and fully reliable data have been obtained concerning the possibility of establishing the perceptual dimensions needed for a de-

---

<sup>1</sup> Trubetzkoy expressly mentions (*Grundzüge*, p. 82) the importance of replacing his articulatory terms by perceptual ones—he says 'acoustic' but probably means 'auditory'—once the description on this latter level has been sufficiently worked out.

<sup>2</sup> *Preliminaries to Speech Analysis* (1952 and ff.), and Jakobson-Halle, *Fundamentals of Language* (1956 ff.).



sirable re-interpretation of the distinctive features in terms of auditory stimuli it seems to be premature to base the structural description of the linguistic expression on such units. The phoneme, divisible or not, substantially defined or not, must so far remain the basic expression element.

2. The pooling of analytic and synthetic methods which since about 20 years characterises instrumental phonetics has made the concept of distinctiveness somewhat dubious, at least if it is supposed to imply a one-to-one correspondence between something functional and something material. As long as different allophones of a phoneme are manifested by acoustically and/or physiologically related elements it is mostly possible to find a common denominator. As long as an Andalusian or American-Spanish /s/-phoneme is represented as syllable-final by some kind of voiceless fricative, it is possible to group this contoid with the initial allophone as a member of the /s/-family. In the positions where it appears there is no possibility of confusion. Even if an articulatory kinship is difficult to maintain between this dorsal fricative, or with an entirely laryngeal [h], and the dental [s], an acoustic and an auditory relationship is perfectly conceivable. But if we consider such dialects as have replaced the fricative contoid by a modification of the vowel quality (an opening of the vocoid) or of the length, it is no longer possible—neither on the articulatory nor on the acoustic level—to find a common phonetic denominator. The function alone, and particularly the morphological mechanism—contextual alternations between, say, [-os-] and [-ɔ], [-as-] and [-a:]<sup>3</sup>—justifies the interpretation of vowel quality and vowel length as 'allophones of /s/. I leave open the question if, under such circumstances, some perceptual dimension can save the feature concept. Looking upon the different *phonetic* variants of Spanish morphemes in the dialects concerned as even *phonemically* different manifestations would imply a complication of the description which has to be avoided.

This is of course an extreme case where some linguists would probably recommend a solution different from mine.<sup>4</sup> But it would be a commonplace to remind the reader of the numerous cases where different contextual variants of a phoneme are distinguished from other phonemes in the same position by a feature which, except for the particular context in question, has to be classified as redundant (e.g. force in the French distinction between voiceless and voiced stops and fricatives).<sup>5</sup>

<sup>3</sup> For instance in the forms of the article in plural (prevocalic and preconsonantal), or in the plurals in -os, -as respectively.

<sup>4</sup> I refer for details to a forthcoming article in the *Festschrift Pierre Delattre*.

<sup>5</sup> I had originally drawn the conclusion that force had to be looked upon as the relevant feature and voice – lack of voice as irrelevant (*Le système consonantique du français moderne*, Lund, 1943) but now prefer to see the latter feature as normally distinctive and force as redundant except for the positions of assimilation where voice – lack of voice become predictable and the force alone maintains the distinction (see my *Structural Linguistics and Human Communication*, 2nd ed., Heidelberg, 1967, Chap. IV).

3. The more the so-called distinctive features which build up a phoneme vary phonetically from one context to another, the more it becomes difficult to look for the linguistic invariance on the feature-level. Even the perceptual description we are waiting for cannot be supposed to eliminate entirely the difficulty referred to. Under what conditions has the element in question to be perceived and by whom? Since distribution is different, a determination of the auditory relationship between allophones will not give much information. To what elements in the Spanish consonantism has the so-called aspiration of final /s/ to be related in a test if its possible perceptual kinship with a fully pronounced initial /s/ is to be proved, or disproved. Many of the consonants to which initial /s/ is opposed do not exist in syllable final positions. The archi-phoneme concept becomes compulsory.

Since the phonemes—which Hjelmslev called *cenemes* in order to avoid any kind of reference to substance phenomena—are purely functional elements in the glossematic system and as such independent of any material manifestation, they cannot be split up into smaller elements. The features are sound qualities. Hjelmslev's ceneme has no such qualities. The glossematic description works on a level of abstraction where sound qualities have been eliminated. The ceneme is, and must be, the minimal expression unit. The feature description of generative grammar cannot be reconciled with glossematic theory.

I have earlier pointed out<sup>6</sup> that the methodology of linguistic description is not a question of a binary choice between form and substance but a choice between different levels or degrees of abstraction where the descriptivist is free to choose the level, or levels, which suit the purpose of his description best. For, say, certain comparative purposes a high degree of abstraction may be desirable. For practical purposes (sound transmission, language teaching, etc.) the description mostly has to come closer to material facts (of sound, of pronunciation).

Since I look upon the distinctive features as necessarily very closely related to certain extra-linguistic facts (of sound vibration, of articulation, of auditory perception), the use of the feature concept in the linguistic description in my opinion excludes those maximally abstract forms of linguistic analysis which alone are capable of reflecting the deep structures transformationalists pretend to be so interested in.

UNIVERSITY OF LUND, SWEDEN

---

<sup>6</sup> In "Levels of abstraction in phonetic-phonemic analysis" (*Phonetica* 8, 1962).

# JUNCTURAL CUES TO ELLIPSIS IN JAPANESE

SAMUEL E. MARTIN

1. In recent papers (Martin 1967, 1968) I have described Japanese accentuation in terms of a single ACCENT (´) whose domain is a stretch bounded by either of two terminal JUNCTURES that I call MINOR ( | ) and MAJOR ( || ). The phonetic manifestation of these phonemic entities is too complex for adequate description in the simple ways that have been proposed (by me and by others) in the past. In this paper, I will only point to some of the more obvious difficulties in the phonetic description; a completely satisfactory treatment must await experimental research of a more sophisticated nature.

I have completely ignored intonation; what we will examine are intonation-removed representations of sentences. To pronounce the sentences, we must add intonations; and the reader is cautioned that those citations which are not even terminal intonation-less sentences can only be pronounced by making the various adjustments, including suppressions of junctures and accents, that form the argumentation here presented.

It is clear that the primary phonetic cue to Japanese accentual phenomena is a change in pitch, and for Standard Japanese the pitch contours within a phrase can be interpreted as stretches of either LOW or HIGH pitch, though the "low" pitch of an initial syllable is actually rather "mid." When an accent phrase (i.e. a juncture-bound string of phonemes) contains a stretch of low pitch that is preceded by a stretch of high pitch, we know that an accent is present, and we can mark its location by placing an acute accent mark (´) over the vowel of the syllable that precedes the low pitch: MAkurao = mákura o ||, aNAtawa = anáta wa ||, oTOKOda = otokó da ||. When the accent falls on a double-mora syllable (such as those containing the phonetically long vowels that are treated as phonemic geminates), two pronunciations seem to be available: a more deliberate version that has a fall of pitch within the syllable, a fall that is here interpreted as high pitch on the first mora and low on the second, and a faster version that pitches the entire syllable high. Thus the noun kóoka 'effect' is pronounced either KOoka or KOOKa, the noun sángatu 'March' is pronounced either SAngatu or SAN-gatu.

When a phrase ends on a high pitch, however, we have no phonetic criteria that will tell us whether a final accent is indicated or whether the phrase simply contains no accent; such a stretch may represent either a morphophonemically oxytonic (final-accented) word or a morphophonemically atonic (unaccented) word. Thus, both koDOMO 'child' and oTOKO 'man' can occur as phrases with the same pitch contour;

but other phrases such as koDOMOMO=kodomo mo || 'the child too' and oTOKOMO=otokó mo || 'the man too' tell us that we are dealing with a pair of nouns that differ in basic (i.e. morphophonemic) accent type. Such convergent pitch phrases are open to either of two alternative PHONEMIC interpretations: (1) The phrases are all phonemically oxytonic; a morphophonemically atonic word acquires a final accent before juncture. (2) The phrases are all phonemically atonic; a morphophonemically oxytonic word loses its final accent before juncture. On the whole, the latter solution seems preferable, and that is the treatment that I have consistently followed here and elsewhere, holding that a terminal juncture automatically suppresses a final accent. Since the junctures themselves are vulnerable to subsequent suppression, either optional or obligatory, we must often infer their presence from the behavior of a word that appears at times as phonemically atonic and at other times as phonemically oxytonic. For example, a number of adverbs that are basically oxytonic lose their accent before a verb, from which we infer that a juncture has disappeared AFTER suppressing the adjacent accent: takuSAnda (or takuSANDa) 'it's a lot'=takusán da ||, but takuSANTAbeta=takusan tábeta—from which we infer an earlier \*takusán || tábeta || with an internal major juncture that does the job of accent suppression before its own reduction to minor juncture and ultimate disappearance.<sup>1</sup>

But a phonetic definition of the accent is complicated by phenomena of VOWEL UNVOICING. Under certain conditions the high vowels *i* and *u* are automatically devoiced and even reduced to little more than vowel coloring of the onset consonant; for the latest statement of the conditions, see the rules given by Akinaga on pp. 31–6 of NHK 1967. One devoicing environment is between voiceless consonants; thus the penultimate vowel of baKUGEkiki 'bomber' is voiceless while the last vowel is voiced. Since a voiceless syllable is neither high nor low in pitch, we are in a quandary as to whether our analysis should isolate the locus of the accent on the syllable BEFORE the low pitch, i.e. the voiceless syllable (bakegékiki), or on the syllable ending the high pitch (bakugékiki). In this example considerations of derivational morphophonemics

<sup>1</sup> This leads to occasional ambivalence in the basic accent of certain adverbs: '(Excuse me that) it is sudden, but . . .' can be said either Sassokú desu ga || (with the adverb oxytonic) or Sassoku desu ga || (with the adverb atonic), though it might be possible to account for the latter version as a result of some sort of ellipsis such as Sassoku [kore] desu ga || '(Excuse me that)-it is suddenly this, but . . .' with an inferred earlier derivation \*Sassokú || kore desu ga ||. Akinaga (p. 39b of Kindaichi 1958 and pp. 79–80 of NHK 1967) limits the accent suppression to those adverbs that express NUMBER, TIME, or QUANTITY, but that seems overly restrictive. Notice that monosyllabic tonic words can be regarded as either prototonic (with accent on the "first" syllable) or oxytonic (with accent on the "last" syllable), depending on the usefulness of those categories in explaining either any internal derivation or any accent suppressions, and we might well take advantage of that possibility to account for the difference between the accent retention of dóo 'like what' as contrasted with the accent suppression of the three correlatives kóo 'like this,' sóo 'like that,' and áa 'like that (remote)': Dóo da || 'Is like what?' and Dóo sita || 'How did it happen?=What happened?' indicate a prototonic adverb, but Sóo da || 'It is like that' and Soo sita || 'It happened like that' (with an inferred earlier \*Sóo || sita ||) indicate an oxytonic adverb. Similar explanations will account for a number of other anomalies in the accentual behavior of adverbs and adnominals; I will take these up elsewhere.

would favor the former decision even though it locates the accent on the voiceless syllable,<sup>2</sup> but there are other cases where the morphophonemic considerations would favor a decision of the latter kind. In any event, at the PHONEMIC level the location of the accent is an arbitrary or indeterminate choice between the unvoiced syllable and the syllable preceding it, unless we can find some additional cue—such as stress?—that proves unique to one or the other of the two syllables. It is probably significant that Japanese accent dictionaries often show such words as optionally accented on either syllable, reflecting the indeterminacy. Another environment where a high vowel gets unvoiced is before juncture in a TONIC phrase. Thus '(it's) dregs' is pronounced KAsu but the "high" pitch of the KA lacks any contiguous low pitch to identify it, though the phonetic contrast with kaSU 'I will lend it'=kasu || with its fully voiced vowel pitched higher than the vowel preceding it<sup>3</sup> tells us that the first example is kásu ||.<sup>4</sup> And so our phonetic definition of accent locus will have to involve at least two disparate cues: We can not say that the accent is located on the syllable before a stretch of low pitch because you hear no such stretch in KAsu, nor can we say that it is on the last syllable of a stretch of high pitch for that would mean saying that juncture induces a final accent on all atonic words—a conclusion that is ultimately unacceptable, I believe, despite some independent arguments in its favor—and the KA in KAsu, contrary to my misleading notation, is heard as neither high nor low since there is no contiguous voiced syllable with which to contrast it. The voicing of the final syllable is the only cue that differentiates the atonic phrase from the tonic phrase that has its basic accent on the syllable before a final unvoiced syllable. Thus our definition will have to include at least the following conditions: A syllable is the locus of an accent (1) if it is followed by a stretch of low pitch, or (2) if it is followed by a voiceless syllable followed by juncture (and is not preceded by any syllables of higher pitch—e.g. Arasj=árasj || 'storm'—since the accent for such words has already been placed by the first provision).

The implications of the preceding arguments were not apparent when the junctures, accents, and devocalization were being marked in the sentences of Chaplin and Martin 1967, the most extensive collection of marked texts published to date.<sup>5</sup> As a result, a number of sentences in the first edition of that book are romanized with the accent

<sup>2</sup> The morphophonemic form is baku.geki-~kí<, an atonic verbal-noun binom ('bombardment')+a left-shifting tonic suffix ('plane'). Some speakers say bakugékki (cf. NHK Kaisetu 43); an example not subject to such further reduction is Nagasakísi or Nagasákísi 'the city of Nagasaki [nagásakij].'

<sup>3</sup> But this pitch difference is susceptible to loss with the overlay of certain intonations.

<sup>4</sup> The final syllable of baKUGEkíki is not unvoiced before juncture owing to a restriction on the unvoicing of contiguous syllables and an ordering of the rules: interconsonantal devocalization takes precedence over prejunctural devocalization. This means that a final high vowel after a voiceless consonant is unvoiced before juncture provided (1) there is a basic accent in the phrase, and (2) the syllable is not preceded by an unvoiced syllable, i.e. by a voiceless consonant followed by a high vowel. Note that the ordering corresponds to the temporal order of the output.

<sup>5</sup> But the notations used in Jorden and Chaplin 1962-3 are, for the most part, readily convertible to the juncture-marking conventions of Chaplin and Martin 1967, thus extending the available material

wrongly suppressed before a prejunctural unvoiced vowel, e.g. the last sentence of Lesson 3 (Book 1, p. 20, lines 1-2) should read "... | osiete kuremász." with an accent written on the penultimate vowel since the marking of the unvoiced vowels (by a slash through i or u) was intended to be no more than a reminder of the rule-conditioned devocalization rather than to convey phonemically critical information.

2. Deliberate pause in well-edited Japanese speech is always accompanied by a major juncture; the question of whether a juncture is minor arises only when two or more phrases are spoken without pause, and all minor junctures are ultimately to be regarded as reductions from major junctures. The phonetic cues to the two junctures would seem to be primarily the relative height of the pitch contours; in addition, some slowing of tempo (and blocking of phonetic assimilations) can usually be heard at the major juncture. The rough effect of the major juncture is to RAISE the pitch contour of a following tonic phrase and to LOWER that of a following atonic phrase; the minor juncture, on the other hand, does just the opposite. When two tonic phrases are separated by a major juncture, the second accent is at least as high as the first, and often higher. When two tonic phrases are separated by a minor juncture, the second accent is somewhat lower than the first and constitutes what Jorden has called "secondary accent." The first syllable of a tonic phrase that is not prototonic (i.e. that has the accent somewhere other than on the first syllable) is somewhat lowered so that the high-pitch span begins with the second syllable—or, in slow speech, with the second voiced mora. A similar lowering occurs on the first syllable of an atonic phrase after a major juncture, but after a minor juncture there is only a very slight lowering. None of these "lowerings" is so low as the low pitch that follows an accent, so that any transition from low pitch to this lowered mid pitch (we can call it just MID) is always a sign that juncture is present. Here is an impressionistic scheme of the occurring two-phrase sequences:

Type	Manifestation
(1) TONIC    TONIC	(MID) HIGH LOW    (MID) HIGH[ER] LOW <sup>6</sup>
(2) TONIC    ATONIC	(MID) HIGH LOW    (MID) HIGH
(3) ATONIC    TONIC	(MID) HIGH    (MID) HIGH[ER] LOW
(4) ATONIC    ATONIC	(MID) HIGH    (MID) HIGH
(5) TONIC   TONIC	(MID) HIGH LOW   (MID) LESS-HIGH LOW
(6) TONIC   ATONIC	(MID) HIGH LOW   (MID) HIGH
(7) ATONIC   TONIC	(MID) HIGH   (MID) [LESS-]HIGH LOW

to a fairly large body of texts. The material in Jorden and Chaplin is all the more valuable for being available on excellent tape recordings, which I have carefully checked for phonetic detail; the versions printed in the book diverge from the tape very seldom.

<sup>6</sup> But the "low" on a final syllable may be replaced by unvoicing, as mentioned earlier. The parenthesized mid pitch will be present on the initial syllable provided the phrase contains more than one syllable and does not have an accent on the first syllable. Sequences of one-syllable phrases are relatively rare, except when ellipsis is obvious.

## (8) ATONIC | ATONIC (MID) HIGH | (MID) HIGH[ER]

The last type is quite hard to distinguish from Type 4 on the one hand and from a single long atonic phrase on the other; also hard to hear is the difference between Type 7 and Type 3. One of the characteristics of sentence generation is JUNCTURE REDUCTION: We must infer many more basic junctures than appear in the phonemic form, and ultimately all of these inferred junctures are major; in the process of delineating particular syntactic patterns, major junctures are often reduced to minor, and minor junctures are often further reduced to no juncture at all. Some of the reductions are obligatory, others are optional; the optional ones frequently depend on the organizational complexity of the sentence and on the speed of its delivery. Thus many instances of Type 8 (two slightly separated atonic phrases) can be regarded as simply stages of reduction somewhere between Type 4 (two decisively separated atonic phrases) and a single combined atonic phrase. One of the disconcerting facts about juncture reduction is that the loss of the minor juncture is so much more prevalent between atonic phrases than when one or especially both phrases are tonic: the presence of an accent seems to reinforce the durability of the juncture, perhaps because junctural suppression forces the disappearance of all basic accents but the first in the phrase, thus sacrificing information that helps identify lexical items.<sup>6a</sup> But it is possible that we are simply missing some other phonetic cue to minor juncture and are mistaken in so often assuming that a series of atonic phrases are welded into a single long phrase.

Here are two short examples of each type. These two-phrase sentences, like most of the examples in this paper, are taken from the Drill Sentences of Chaplin and Martin 1967; the reference at the end of each example shows the number of the Lesson followed by that of the Drill Sentence. The particular phrasing that is marked here may not be the only way to say a given sentence, but it is what was intended by the native speaker who created the sentence. Prosodic notations are intended to represent the final stage of sentence derivation, i.e. are phonemic; in some cases it is clear that junctures and accents have been suppressed along the way. The translations are rather free; the initial capitalization and—in lieu of major juncture—the final period are esthetic conventions.

- (1) Tití wa || ginkóo-in desita. 'My father was a bank clerk.' (20.20)  
Samúi kara || móohu ga iru. 'It is cold enough for a blanket.' (25.72)
- (2) Benkyoo sinákatta no de || rakudai sita. 'He failed an exam for not studying.'  
(14.86)  
Doomyaku o kíru to || sinde simau. 'The cutting of an artery can cause death.'  
(16.12)

<sup>6a</sup> This implies that what we have hitherto assumed to be an arbitrarily designated "atonic" accent class is, in fact, an unmarked category to be opposed to all "tonic" classes in a dichotomy. The historical consequences of this interpretation, if true, may help clarify the phonetic nature of the accentual distinctions of Proto-Japanese. (In NHK Kaisetu 89, Akiyama seems to be saying that TONIC+TONIC phrases can drop the minor juncture and atonicize the second phrase unless it is PROTONIC; but the examples given are not convincing and I believe the observation is mistaken.)

- (3) Hakutyuu || satuzin ga átta. 'There was a murder in broad daylight.' (25.59)  
Kono sigoto wa || tanin ni makaserarénai. 'I cannot turn this work over to others.'  
(27.27)
- (4) Kokkai no kaisan wa || hissi da. 'Dissolution of the Diet is unavoidable.' (22.9)  
Hinsitu ni yotte || tookyuu o kimeru. 'The classification is set according to quality.'  
(34.25)
- (5) Nékutai o | tóita. 'I untied my tie.' (7.57)  
Akíraaka na | ayamári desu. 'It is an obvious error.' (23.21)
- (6) Zyúnsa ni | miti o osiete moratta. 'I got a policeman to tell me the way.' (8.22)  
Tooyoo-bízyutu o | kenkyuu site iru. 'I'm studying Oriental art.' (19.49)
- (7) Ginkoo ni | yokin ga áru. 'I have savings at the bank.' (20.11)  
Kuruma o | syáko ni simau. 'I will put the car away in the garage.' (23.58)
- (8) Huutoo ni | kitte o haru. 'I will stick a stamp on the envelope.' (14.26)  
Kodomo o turete | kooen e iku. 'I will take the children to the park.' (14.44)

3. Within the information structure of a spoken sentence the junctures are used to mark a variety of syntactic features, but they do not bear any direct relationship to the surface constituency structure, except when this happens to coincide with the particular features that are marked. One function of retained junctures is to signal ELLIPSIS—the omission of specific words normally required to complete a construction. (This is not to be confused with DELETION, a bookkeeping device of generative grammarians that is a handy way to deal with such quasi-historical matters as the ordered juncture suppressions described in Martin 1967 and elsewhere.) A number of ellipsis types are illustrated in § 7. Before examining those cases, however, we would do well to look at three other problems: the juncture phenomena of verbal nouns+the auxiliary verb *surú* 'does,' the phrasing of nominal sentences that consist of a noun or an adjectival noun joined to the pseudo-copula *dá* 'it is (an instance of),' and the accentuation of phrases consisting of an oxytonic noun+the word *nó* (in its several grammatical roles).

4. Verbal nouns that consist of two Sino-Japanese morphemes (such as tonic *sábetu* 'discriminating' and atonic *setumei* 'explaining') are relatively free nouns of action that enjoy valences with other nouns in the same way that verbs do; thus they are inherently transitive or intransitive and the like, just as verbs are. In fact, one way to look at the Japanese verb is to start from a basic infinitive (=ren'yoo-kei) that can be thought of as a verbal noun itself, with the various finite forms derived from abbreviations of that infinitive joined to the auxiliary *surú* 'does'—itself ultimately to be derived, perhaps, from the infinitive *sí*+a verbalizing auxiliary.

It seems best to assume that all phrases which consist of a free verbal noun+*surú* are the result of optionally dropping the goal particle *ó*, with or without omission of the following juncture. That means that we are starting from the assumption that all such constructions derive from something like this:



VN (ó) | surú ||

(Ultimately, the minor juncture is to be regarded as a reduction from an earlier major juncture, but that is irrelevant here. In reading the notations, remember that all accents are suppressed when in a syllable immediately before a juncture.)

A further reduction of the minor juncture is possible and is usual—or even obligatory—for some of the verbal categories, such as these:<sup>7</sup>

VN surú	VN simásu
VN sitá	VN simásita
VN sinái	VN simasén
VN siyóo	VN simasyóo
VN sitái	

But even those categories do not allow the juncture to be suppressed when followed by a particle:<sup>8</sup>

VN   surú kara	VN   sitá kara	VN   sinái kara
VN   surú ka	VN   sitá ka	VN   sinái ka
VN   surú si	VN   sitá si	VN   sinái si
etc.	etc.	etc.

In most other cases of verbal noun + auxiliary the minor juncture seems to be obligatory, at least when the verbal noun is tonic:

?VN ( | ) sitára ||  
 VN | sinákatta ||  
 VN | saserú ||  
 VN | sasetá ||  
 VN | sarerú ||  
 VN | nasáru ||  
 VN | itasú ||  
 ?VN ( | ) dekiru ||

5. A number of statements can be made about nominal sentences and adjectivally nominal sentences:

(1) Juncture never intervenes between a noun or an adjectival noun and the pseudo-copula, which accordingly loses its basic accent after a tonic noun.

<sup>7</sup> When the verbal noun is tonic, of course, the accent on forms of the auxiliary drops along with the reduction (to nothing) of the minor juncture.

<sup>8</sup> Excepted are those particles which allow a juncture to separate them from the preceding word, notably yó, sá, né, and for some speakers tó: VN surú ( | ) yó ||. The juncture often disappears after removing any preceding oxytonic accent: Setumei suru yo! 'I'll explain it!' Cf. Annái suru yo! 'I'll show you around!' in which the particle is attached to a verbal-noun phrase that has already dropped the juncture between the tonic verbal noun and the auxiliary and thus has removed the accent from surú, so that the only accent that is removed by the reduction of the juncture in front of the particle is that of the particle itself, which would be cancelled in any event by the final juncture.

N dá, N ná, N nó  
 N dátta, N dáttara, N dáttari (mo), N nára(-ba)  
 N daróo  
 N desu, N désita, N desyóo  
 N dé, N dé mo, N dé wa, N zyá(a)  
 N ní, N ní mo, N ní wa

(2) Juncture seldom, if ever, intervenes between any of the preceding strings and a particle or the postadnominal nó:

sízuka da	}	{	to    kara    keredomo	yuumei dá	}	{	to    kara    keredomo
datta				dátta			
desu				désu			
desita				désita			
daroo				daróo			
desyoo				desyóo			
sízuka na no wa				yuumei ná no wa			

(2a) But when such particle-marked sentences are turned into new nominal sentences, the forms of the pseudo-copula may be preceded by juncture:

sízuka datta kara | dáttara ||                      yuumei dátta kara | dé mo ||

And this accounts for the juncture in *sízuka datta kara | ní wa* || 'since it was quiet anyway.'

(3) It is usual for an adnominalized nominal sentence to have a minor juncture before the noun modified: *génki na | otokó wa* || 'a healthy man,' *génki datta | otokó wa* || 'a man who used to be healthy.'

(3a) But in the case of an adnominalized IMPERFECT nominal sentence that is atonic, the minor juncture often (always?) drops; that the juncture was originally there is shown by the fact that *ná* or *nó* has lost its accent:

\*yuumei ná | senséi datta || → yuumei na senséi datta || 'it was a famous teacher'

\*yuumei ná | gakkoo dátta || → yuumei na gakkoo dátta || 'it was a famous school'

\*byooki nó | tomodati dátta || → byooki no tomodati dátta || 'it was a sick friend'

Contrast the adnominalized PERFECT atonic nominal sentence:

yuumei dátta | senséi datta || 'it was the teacher who had been famous'

yuumei dátta | gakkoo dátta || 'it was the school that had been famous'

byooki dátta | tomodati dátta || 'it was a friend who has been ill'

(4) Exceptionally, before the postadnominals *daké*, *bákari*, and *gúrai*, both atonic and tonic nominals retain the minor juncture; but suppression is optional after atonics:

sízuka na | daké datta || 'it was just that it is quiet'

senséi na | daké datta || 'it was just that it is the teacher'

yuumei ná | daké datta || → yuumei na daké datta || 'it was just that it is famous'

gakusei ná | daké datta || → gakusei na daké datta || 'it was just that it is a student'

(4a) But before *hodó* and *máde* the minor juncture drops after ANY adnominal,

tonic or atonic, unless there is a following particle; in the latter case the dropping is optional after a tonic adnominal.

\*sízuka na | hodó (wa) || →sízuka na hodo (wa) || 'the extent that it is quiet'

sízuka na | hodó wa ||

\*sízuka na | máde (ni) || →sízuka na made (ni) || 'until it is quiet'

sízuka na | máde ni ||

\*yuumei ná | hodó (wa) || →yuumei na hodó (wa) || 'the extent that it is famous'

\*yuumei ná | máde (ni) || →yuumei na máde (ni) || 'until it is famous'

(Hodó has a variant pronunciation hodo.)

(4b) Before hazu (and some of the other postadnominals?—e.g. kotó?) any adnominalized sentence (whether perfect or imperfect, tonic or atonic) drops the juncture:

sízuka na hazu da/datta || 'it is/was likely to be quiet'

sízuka datta hazu da/datta || 'it is/was likely to have been quiet'

yuumei na hazu da/datta || 'it is/was likely to be famous'

yuumei datta hazu da/datta || 'it is/was likely to have been famous'

When further expansions lead to very long strings, however, hazu may be followed by a juncture (cf. Statement 3 above):

sízuka datta hazu ( | ) datta keredomo || 'it was likely to have been quiet but'

yuumei datta hazu ( | ) datta kara || 'it was likely to have been famous so'

(4c) And before dókoro and kágiri (and others?—perhaps ízyoo, ígai, bákari) the minor juncture drops after an atonic adnominal, apparently following the general rule given in Statement 3a above; but if no particle follows, the juncture optionally drops after a tonic adnominal also: sízuka na | kágiri || or sízuka na kagiri || but only sízuka na | kágiri wa || 'so long as it is quiet' and \*yuumei ná | kágiri || →yuumei na kágiri || 'so long as it is famous.'

(5) We expect a minor juncture between dé (copula gerund used for infinitive) or its colloquial synonym zyá (originally a reduction from zyáa, an abbreviation of dé wa) and any form of the negative auxiliary adjective náí 'is not,' but the juncture, along with the accent of dé or zyá, is usually suppressed if the preceding noun or adjectival noun is atonic:

sízuka de | náku || =sízuka zya | nákute || 'it is not quiet and'

(\*) yuumei de | náku || →yuumei de náku || =(\*) yuumei zyá | nákute || =yuumei zya nákute || 'it is not famous and'

(5a) We expect a major juncture between dé wa (or its abbreviation zyáa) and forms of the negative auxiliary adjective náí 'is not,' but the juncture may be reduced to minor:

sízuka de wa || nákatta || →sízuka de wa | nákatta || =

sízuka zyaa || nákatta || →sízuka zyaa | nákatta || 'it was NOT quiet'

yuumei zyáa || nákatta || →yuumei zyáa | nákatta || =

yuumei zyáa || nákatta || →yuumei zyáa | nákatta || 'it was NOT famous'

(6) Between dé and the auxiliary verb áru 'is,' the expected minor juncture removes

the accent on *dé*; subsequently, however, the minor juncture is dropped before either *áru* or its past form *átta* when (1) *dé* is preceded by an atonic noun or adjectival noun or when (2) even though *dé* is preceded by an atonic noun or adjectival noun the auxiliary is followed by a juncture (rather than, say, a particle):

\**sízuka de | áru* || → *sízuka de aru* || 'it IS quiet'

\**sízuka de | átta* || → *sízuka de atta* || 'it WAS quiet'

\**yuumei dé | áru* || → *yuumei de áru* || 'it IS famous'

\**yuumei dé | átta* || → *yuumei de átta* || 'it WAS famous'

*sízuka de | áru kara* || 'it IS quiet so'

*sízuka de | átta kara* || 'it WAS quiet so'

\**yuumei dé | áru kara* || → *yuumei de áru kara* || 'it IS famous so'

\**yuumei dé | átta kara* || → *yuumei de átta kara* || 'it WAS famous so'

(6a) Forms of the auxiliary other than *áru* and *átta* usually retain the preceding juncture if the noun before *dé* is tonic, but suppress it if the noun is atonic:

*sízuka de | áttara* || 'if it WERE quiet'

\**yuumei dé | áttara* || → *yuumei de áttara* || 'if it WERE famous'

(7) When *sáe* (or *sáe mo*) 'even; just' follows *dé*, the two words may be separated by either a minor juncture or, for emphasis, a major juncture; but the minor juncture drops (1) if the noun or adjectival noun before *dé* is atonic, or (2) if *sáe* is followed by some form of the auxiliary *áru* 'is':

*senséi de || sáe (mo)* 'even BEING the teacher,' *senséi de | sáe (mo)* || 'even (being) the teacher'

*gakusei de || sáe (mo)* || 'even BEING the student,' \**gakusei de | sáe (mo)* || → *gakusei de sáe (mo)* || 'even (being) the student'

*senséi de sae | áreba* || 'provided it is just a teacher'

*gakusei de sáe | áreba* || 'provided it is just a student'

Alternatively, the particle *sáe* (or *sáe mo*) may be attached directly to *dé*, with no juncture between: *gakusei dé sae (mo)*, *senséi de sae (mo)*. Though I am treating this as a variant, the option seems to be freely used by all speakers.

6. The rule for suppressing the accent of an oxytonic noun before the word *nó* has been inadequately stated in the past and that inadequacy stems from a failure to take juncture into consideration. The operating rule would seem to be this: An oxytonic noun drops its final accent before the word *nó* (of whatever grammatical function) unless that word is followed by a RETAINED juncture.<sup>9</sup> That means that whenever N' *no* | N drops its juncture (optionally or obligatorily—for any of a variety of reasons) the noun-final accent drops, too. This will account for such examples as the following, where the critical vowel is italicized:<sup>9a</sup>

<sup>9</sup> Or, as we will see below, is followed by an ellipsis that eliminates the juncture along with a following noun.

<sup>9a</sup> The reading given here for each sentence is a common one, but other versions are usually possible.

## (a) ACCENT SUPPRESSED

Ano kawa no dote ní wa || kí ga | óoi. 'There are many trees on the bank of that river.' (3.17)

Kore wa || titi no dái ni | nátte kara | tate-naosita ié desu. 'This is a house rebuilt in my father's generation.' (9.10)

Ike no mawari o mawaru. 'We will go around the pond.' (14.65)

Otokó no gakusei wa || daigaku de || kyóoren o | ukasaseráreta | monó desu. 'The men students were regularly obliged to receive military training at college.' (19.53)

Kinoo no úryoo wa || nizyúu-miri desita. 'Yesterday's rainfall was twenty millimeters.' (26.19)

Huroba no kotó o | yokuzyoo tó mo iimasu. 'We call the furoba [bathing room] also the "yokujō".' (27.42)

Nihon no tetudoo wa || hattyaku-zíkan ga | seikaku na kotó de || yuumei de áru. 'Japanese railroads are famous for their punctual arrivals and departures.' (30.10)

## (b) ACCENT RETAINED

Daimyóo no | yóo na seikatu o site iru. 'He is living like a Japanese feudal lord.' (11.46)

Sikén no | tensúu ga | wárukatta. 'The examination grades were poor.' (15.101)

Sisoo no ziyúu no | náí | kuni dé wa || seikatu sitaku arimasén. 'I don't want to live in a country with no freedom of thought.' (27.88)

Tukue no ué no | akai | atui hón o | tótte kudasai. 'Please get me the thick red book on the desk.' (28.51)

Ano otokó no | sigoto-buri wa || nakanaka seizitu de áru. 'That man works in a thoroughly devoted way.' (29.24)

Kikéi no | íken o | uketamawarítái to omoimasu. 'I'd like to hear your opinion.' (29.69)

Sekitán no | ureyuki ga | wáruku || tyotan-zyo wa | sekitán no | yamá da. 'The sales of coal have been poor and the coal yards are (loaded with) mountains of coal.' (32.55)<sup>10</sup>

The well-known "exceptions" of the number words, *yosó* 'other,' and *tugí* 'next' (as in *hutarí* no | *senséi* wa || 'two teachers,' *takusán* no | *hón* wa || 'lots of books,' *yosó* no | *ókusan* wa || 'other men's wives,' and *tugí* no | *peezi ní mo* || 'also on the next page') are to be explained as adnominal phrases which do not permit the dropping of the juncture, at least at the critical stage in the derivations,<sup>11</sup> and thus fail to suppress

The examples were taken from a large body of texts and no effort was made to check their consistency with respect to those factors that determine the phrasing—largely the speed and the degree of formality.

<sup>10</sup> Cf. Tanaka-san kará no | tegami (o) || → Tanaka-san kara no tegami (o) || 'the letter from Mr. Tanaka' (Jorden and Chaplin 1.103.C, confirmed by the tape—cf. 1.207.D2 which, contrary to the book, the tape renders as *siriai* kará no | tegami ni yoru to || ... Similarly, the tape version for 1.23 6.P3 indicates *tomodati* kará no | tegami o yomimásita ||, contrary to the book).

<sup>11</sup> Cf. *tugí* no yoo na | ... (14.31), *mokuzi* no *tugí* no *peezi* kara | ... (10.1).

the oxytonic accent. Most tonic monosyllables are to be considered prototonic, not oxytonic, and that accounts for the accent retention in such phrases as *kí no sita de* | 'under the tree' (3.12), and *kono hón no teika wa* || 'the price of this book' (24.8). Thus there is no need to point to juncture retention as the explanation for accent retention in such phrases as *kono kái no* | *sikái-sya wa* || 'the chairman of the meeting' (21.51), *kono hón no* | *dái wa* || 'the title of this book' (18.79), and *kyóo no* | *yóo na* || 'like today' (31.74). (Note that *kyóo* 'today,' unlike *kinóo* 'yesterday,' fails to lose its accent when used adverbially, i.e. followed by a juncture—suppressed or pronounced, though in the latter case a later suppression may be effected by speed-up or intonation overlay. That is evidence for the word's prototonicity. Cf. fn. 1.)

At first glance expressions like *senséi no da* || 'it's the teacher's' and *tití no mo* || 'father's too') would seem to violate the rule as stated, but these nominalized possessives are to be regarded as optional reductions from something like *senséi no* [ || *monó*] *da* 'it's the teacher's [thing]' and *tití no* [ || *monó*] *mo* 'father's [thing] too'; the influence of the juncture in the underlying form somehow prevents the suppression of the accent BEFORE the abbreviation process eliminates the juncture right along with the following noun. A similar explanation accounts for *byooki ná no da* || 'it is the one that is ill' or '[it is the case that] one is ill.'

It is far from clear just why the dropping of the juncture after *nó* leads to the suppression of the preceding oxytonic accent; at the moment, the only suggestion I can offer is that the juncture perhaps metathesizes with the *nó* before disappearing: *tití no* | *dái ni* || → \**tití* || *no dái ni* || = \**titi* | *no dái ni* || → *titi no dái ni* ||. But I find no other evidence to support such an assumption, though it might be possible to assume some sort of ellipsis: \**tití* [no] | [N] *no* ( | ) *dái ni* ||. Thus, the peculiar accent behavior of *nó* would be attributed to some semantically weak element such as *monó* 'thing,' assumed to have dropped in all such constructions.

7. The preceding sections are intended as background for the information that follows. In spoken Japanese we do not normally expect to come across two nouns adjacent to each other unless (1) they have been combined into a single accent phrase that shows they are being treated as a compound noun, or (2) a function particle such as *gá* (subject), *ó* (direct object), or *wá* (topic) has been optionally dropped, usually leaving behind a major juncture, though that in turn may be reduced to a minor juncture or even (especially after an atonic noun) further reduced to no juncture at all.<sup>11a</sup> The accent of compound nouns has been extensively treated elsewhere (Martin 1952, Chew 1963, McCawley 1965 and 1968) and the derivational processes by which the compounds are reduced from underlying sentences are fairly clear (Huber 1963).

Leaving aside the above-mentioned cases, then, we normally expect two nouns in

<sup>11a</sup> A third case is that of a noun (particularly one designating a time) that can be used as an adverb with no overt marking of the adverbialization. An example is *Hakutyuu* || *satuzin ga átta*. 'There was a murder in broad daylight.' (25.59)

spoken Japanese to be separated by some relational particle or by some form of the pseudo-copula such as the forms *ná* and *nó* that serve as adnominal (=attributive) alternants of the nonpast (=imperfect) *dá*.

But at times in the spoken language, and more widely when written Japanese is read aloud, we find two nouns separated only by a minor juncture. That juncture serves to alert us to an ELLIPSIS. Moreover, in certain other cases we can infer a dropped minor juncture (usually contiguous to a basically atonic phrase) that would also indicate ellipsis; we infer the juncture because the two nouns fail to follow the proper accentuation rules to qualify as a noun compound—and accordingly they remain spaced rather than hyphenated in the romanization. Thus when we hear *kéizai* | *saiken* '(to) reconstruct the economy' we can safely infer an underlying *kéizai saiken* since the phrase does not display the accent rule that is found in such compounds as *keizai-séikatu* 'economic life'.<sup>12</sup> In the examples given here the inferred junctures (including some not relevant to ellipsis) are enclosed in parentheses; I believe the suppression may be optional in many of the cases.

Below are a number of types and subtypes of ellipsis that I have observed in working with the data in Chaplin and Martin 1967. In the examples the critical stretches are italicized; in the formulas the elliptical material is given in brackets and N=noun, VN=verbal noun, AN=adjectival noun. I believe the list of types is fairly comprehensive, but there are probably a few additional subtypes.

(1) N [ó] | VN [surú no]

*Kookó-gaku* ( | ) *kenkyuu* no ( | ) *mokuteki* wa | *nán* *desu* *ka*. 'What is the aim of archeology research?' (7.58—juncture inferred from \**kookogaku-kénkyuu*)

*Kyónen* || *daigaku* ( | ) *sotugyoo* to ( | ) *dóozí* ni | *nyuusya-sikén* o | *úketé* || *syáin* ni | *narímásita*. 'Last year, at the time of my graduation from college, I took the entrance examination and became a member of the company staff.' (Text 28.2—\**daigaku-sótugyoo*)

*Booéi-ryoku* ( | ) *zookyoo* no *tame* || *yósan* ga | *zodai* *suru*. 'We will increase the budget to reinforce our defense strength.' (28.65—\**booeiryoku-zóokyoo*)

*Nihon-kókumin* wa || *sengo* || *kéizai* ( | ) *saiken* no *tame* | *dóryoku* *site* *iru*. 'Since the War, the Japanese nation has been striving hard for the rebuilding of its economy.'

<sup>12</sup> A somewhat simplified statement of the accentuation rule: Put the accent on the first syllable of the later (right-hand) member of a noun compound. But if the later constituent is itself so complex as to have undergone an accent placement rule (i.e. is a compound of two free nouns or noun+suffix) the accent of the compound is the same as that of the right-hand member; this accounts for such examples as *bizyutu-hyóronka* 'art critic' (\**bizyutu-hyóronka*) consisting of the prototonic noun binom *bí.zyutu* 'art' and the atonic compound noun *hyóron-ka* 'critic' derived from the atonic verbal-noun binom *hyoo.ron* 'criticism' + the tonic right-shifting (i.e. atonicizing) suffix-*ká* > 'professional person,' and McCawley's example of *densi-kenbikyoo* 'electron microscope' consisting of the tonic noun binom *dén.si* 'electron' and the compound noun *kenbi-kyoo* 'microscope' derived from an obscure (bound?) atonic verbal-noun binom *ken.bi* 'manifesting the fine' + the tonic right-shifting suffix-*kyóo* > 'mirror.' Prefixes and suffixes complicate the accentuation rule by introducing accent shifts, which I describe elsewhere.

## (32.42—\*keizai-sáiken)

Anó hito wa | *konketuzi-móndai* ( | ) *kaiketu* ni | issyoo o ( | ) saságete imasu. 'He is devoting his entire life to a solution of the problem of mixed-blood children.' (32.49—\*konketuzimondai-káiketu)

(1a) N [ó] | VN [sitá no]

*Tyuugákkoo* | *sotugyoo* daké no | *gakureki* dé wa | *saiyoo* ( | ) *dekimasén*. 'We cannot employ a person with a school record of only graduating from junior high school.' (32.21—\*tyuugakkoo-sótugyoo ~daké→\*tyuugakkoo-sotugyoo daké<sup>12a</sup>)

(1b) N [ó] | VN surú [no]→N | VN dá<sup>13</sup>→N | VN nó<sup>14</sup>

*Sai-gúnbi* ( | ) *hantai* no ( | ) *demo-tai* ga | *kokkai* no ( | ) *syúui* ni | *atúmátta*. 'The anti-rearmament demonstration congregated about the Diet.' (32.41—\*saigunbi-hántai)

(1c) N [ó] | VN [sí] ni

*Kensetú-syoo* wa | *saigái-ti* ( | ) *sisatu* ni | *dekaketa*. 'The Minister of Construction set out upon an inspection of the disaster area.' (31.69—\*saigaiti-sísatu)

(2) N [gá] | VN [surú no]

*Zyósi* ( | ) *sen'yoo* no | *púuru* desu. 'This swimming pool is for women only.' (10.36—\*zyosi-sén'yoo)<sup>15</sup>

*Gunzi-hi* | *zoodai* ni *tomonátte* || *tuika-yósan* o | *kúmu*. 'To accompany the increase in military expenses we will draw up a supplementary budget.' (28.24)

*Kensetú-syoo* wa | *saigái-ti* ( | ) *hukkyuu* ni | *zenryoku* o ( | ) *ageta*. 'The Minister of Construction put all his efforts into rehabilitation of the disaster area.' (32.85—\*saigaiti-húkkyuu)

(2a) VN [(surú no) gá] | N [dá]

*Mizuta-si* wa | *toosen* ( | ) *kakuzitu* to | *mirárete* iru. 'Mr. Mizuta is regarded as a sure election winner.' (33.11—\*toosen-kákuzitu)

(3) N [ní] | VN [surú no]

'Tyúugoku no | *kokuren* ( | ) *kamei* wa | *zikan* no ( | ) *mondai* de áru" to ( | ) itta. 'He said, "China's UN membership is a matter of time." (32.28—\*kokuren-kámei)

*Sooka-gákkai* no | *itizirusí* ( | ) *kokkai* ( | ) *sinsyutu* wa || *náni* o | *monogatáru* ( | ) *mono* de | *aró* ka. 'What does the rapid advance in the Diet of the Sōka-gakkai tell us?' (35.38—\*kokkai-sínsyutu)

*Kázitu* || *Tookyoo* ( | ) *zaizyuu* no | *seinen-dánzyo* o | *taisyyoo* ni *site* || ... 'The other day ... the young people living in Tokyo.' (Tex t35.1—\*tookyoo-záizyuu; the underlying derivation is *Tookyo* [ní] | *zaizyuu* [surú no] dá 'it is a matter of living in

<sup>12a</sup> The particle ~daké 'only' cancels the accent of a preceding noun, and that is the meaning of the initial breve in the notation.

<sup>13</sup> Or, to be more rigorous, the infinitive ní. This is a renominalization.

<sup>14</sup> An adnominalization of the new nominal sentence.

<sup>15</sup> The *no* in the text sentence is the result of renominalization (→ ... *nó da* and adnominalization (→ ... *no no* N with automatic contraction of *no no* to a single *no*).



Tokyo' adnominalized to Tookyo [ní] | zaizyuu [surú no] | nó N 'it is an N about which it is a matter of living in Tokyo')

(4) N [ó] | N ní [site] ||

*Hoken-kin* ( | ) *méate* ni | *zibun no* ( | ) *ié* ni | *hí o* | *tukéta*. 'He set fire to his own house with his eye on the insurance money.' (32.61. Although *hokenkin-méate* would qualify phonologically as a compound noun, the juncture and the ellipsis are inferred from the syntactically dangling ní.)

(5) N [nó] | N (usually to be derived from N ní | áru | N)

*Zyuukyuu-séiki* ( | ) *matu kara* || *nizyus-séiki* ni | *kákete* || *dénki no* ( | ) *riyoo ga* | *kóogyoo* ( | ) *zentai* ni | *kakusin no* ( | ) *miti o* ( | ) *hiráita*. (30.3—\**zyuukyuuuseiki-mátu*, \**koogyoo-zéntai*)

*Kokkai* ( | ) *syuuhén* ni | *demo-tai ga* ( | ) *atúmáta*. 'The demonstrators congregated around the Diet.' (33.18—\**kokkai-syúuhen*)

*Bánkoku* | *yuubinrengoo-zyóoyaku* ni | *kamei sitá no wa* || *Méizi* | *zyúu-nen* *desu*. 'Affiliation with the Universal Postal Union Treaty dates from the tenth year of Meiji.' (Text 32.6—\**bankoku-yuubinrengoozyóoyaku*, \**meizi-zyúunen*)

*Sángatu* ( | ) *tooká* no | *kesi-in no* ( | ) *áru* ( | ) *tegami*. 'A letter with a March tenth cancellation mark.' (22.68—\**sangatu-tóoka*)

*Sitigatu* | *ituka* || 'July 5th.' (Text 12, end.)

Notice, in contrast, the tightening into compounds of *kyooto-siténtyoo wa* 'the head of the Kyoto branch' (28.31) and *kakkoku-táisi to* 'with the ambassadors of various countries' (28.48); earlier readings of the sentences gave these as ellipsis-marking phrases: *kyóoto* | *sitén-tyoo wa* and *kákkoku* | *táisi to*.

(5a) Japanese family name + personal name

*Watakusi wa* || *Yamada* | *Yósiko to* ( | ) *moosimasu*. 'My name is Yoshiko Yamada.' (6.32)

"*Koike* | *Másako to* ( | ) *moosimasu*." ... "*Mórita* | *Mítiko desu*." "My name is Masako Koike." ... "I am Michiko Morita." (8.3)

(5b) By inversion, foreign personal name(s) + family name

*Baanaado* ( | ) *Syóo wa* | *dokuzetu-ka to site* | *sirarete iru*. 'Bernard Shaw was known as a man with a vitriolic tongue.' (35.16; ← \**Syóo* [no] ( | ) *Báanaado*)

... *Seodoa* ( | ) *Ruuzubéruto no* | ... 'of Theodore Roosevelt' (30.30—← \**Ruuzubéruto* [no] ( | ) *Séodoa*)

*Uinsuton* ( | ) *Tyáatiru* || 'Winston Churchill.' (VII. 2.27—← \**Tyáatiru* [no] ( | ) *Uínsuton*)

*Dagurasu* ( | ) *Makkáasaa* || 'Douglas MacArthur.' (VII. 2.33—← \**Makkáasaa* [no] ( | ) *Dágurasu*)<sup>16</sup>

(6) (A)N [ná] ( | ) N

*Ryóoke no* | *syakai-teki* ( | ) *tíi no* ( | ) *mondai kara* || *kono* ( | ) *kekkon no* ( | ) *hanasí wa* | *hadan to* ( | ) *nátta*. 'The marriage talks were broken off due to the prob-

<sup>16</sup> The accent of the personal name is lost before the inversion, with the suppression of the minor

lem of the (differing) social positions of the two families.’ (32.68. The juncture and ellipsis in this example must be inferred from the syntax of other examples since phonologically the phrase would be interpretable as a compound noun *syakaiteki-tti*.)

Yokohama wa || minato to ( | ) site || *sizen-teki* ( | ) *zyookén* ga | yóku || huyú de mo || kooranái. ‘As a harbor, Yokohama enjoys excellent natural conditions; even in winter it does not freeze over.’ (Text 23.4.1—\*sizenteki-zyóoken)

Sára ni || kózin no | ziyúu to || *kihon-teki* ( | ) *zinken* no ( | ) sontyoo o | tóku ni | kyootyoo ( | ) site iru. ‘Also, individual freedom and respect for fundamental human rights are given particular emphasis.’ (Text 29.5.1—\*kihonteki-zínken)

(7) N [tó] | N

*Kyuuzin* | *kyuusyoku* no ( | ) *kookoku* wa || taitei | sinbun no | dái | zyúu-men ni | notte imósu. ‘The help-wanted and situation-wanted ads usually appear on Page 10 in the paper.’ (29.30)

Yuuméi-zin no | *ikkyo* | *itidoo* wa || syákai no ( | ) tyuumoku o ( | ) abiru. ‘Every movement of a famous person attracts the attention of society.’ (29.78)

There are a good many examples with full major juncture:

*Tookyoo* || *Kyóoto* wa || *Nihon* no | *daihyoo-teki* na ( | ) tokai désu. ‘Tokyo and Kyoto are representative Japanese cities.’ (9.11)

*Tookyoo* || *Oosaka* wa || dai-tósi desu. ‘Tokyo and Osaka are major cities.’ (17.23)

*Sizin* || *gaka* || *ongakka* ( | ) nádo wa || geizyutu-ka to ( | ) iu. ‘Poets, painters, and musicians are called artists.’ (20.82)

Sékai ni wa || *oosyoku* || *hakusyoku* || *kokusyoku* || *sekisyoku* no | yon-zínsyu ga | súde iru. ‘Four races—yellow, white, black, and red—live in the world.’ (33.52)

*Keiba* || *keirin* ( | ) nádo no | kakégoto wa | sinai ( | ) hóo ga | fi desu. ‘We’d better not have such gambling games as horse racing and bicycle racing.’ (33.62)

*Kín* || *gín* || *dóo* || *tetu* ( | ) nádo o | kínzoku to ( | ) iu. ‘Gold, silver, copper, iron, etc. are called metals.’ (34.7)

(8) N [gá] | N dá

*Syukketu* | *taryoo* no ( | ) tame || zetumei ( | ) sita. ‘He died from an excessive loss of blood.’ (30.38; dá→nó by adnominalization)

Hanketu no ( | ) kekka || *zen’in* ( | ) *múzai* to | nátta. ‘All were acquitted as a result of judicial decision.’ (34.4; ←zen’in ga | *múzai* [da] to. Phonologically we could

juncture. My explanation may assume more knowledge of the structure of foreign names than is warranted for most speakers. If the analogy is strong enough, we would expect the rules to apply mistakenly to such a name as Don ( | ) Kihóote ‘Don Quixote’ as well as to Santyo ( | ) Pánsa ‘Sancho Panza’ (6.3), where the rules will work but not because Panza is a surname. (It is an epithet in origin.) At the risk of having a bit of humor misunderstood, I am unable to resist suggesting that we treat Reonarudo da Binti ‘Leonardo da Vinci’ (VII.2.39) as derived from Binti no ( | ) Reonarudo with the *dá* that underlies *nó* automatically restored when the adnominalized pseudo-copula is no longer in the attributive position; i.e. I am taking facetious advantage of the homonymy of Japanese *dá* ‘it is . . .’ and Italian *da* ‘of . . .’. Actually such names probably cause the same confusion in Japanese minds as in those of English speakers; cf. the uncertainty of referring to Saussure or de (De?) Saussure, to say nothing of the dilemma faced when such a name must be placed in an alphabetical list.

interpret *zen'in-múzai* as a compound noun, but I assume that examples of a non-prototonic noun can be found in a congruent construction.)

The following example illustrates a number of ellipses in a single sentence: *Mónko* ( | ) *kaiho* || *kikái* ( | ) *kintoo* to | *iú no ga* || *Seodoa* ( | ) *Ruuzubéruto no* | *tai-Tyuugoku-séisaku datta*. 'The policies of Theodore Roosevelt toward China were the "Open Door Policy" and "Equality of Opportunity".' (32.30)

The first major juncture represents Type 7; the first suppressed minor juncture represents Type 1 (←*mónko* [o] ( | ) *kaiho* [surú no] 'opening the door'), the second suppressed minor juncture represents Type 8 (←*kikái* [ga] ( | ) *kintoo* [ná no] 'the opportunity's being equal,' a nominalization of *kikái ga* | *kintoo dá* 'the opportunity is equal'), and the third suppressed minor juncture represents Type 8 (←*\*Ruuzubéruto* [no] ( | ) *Séodoa*).

8. This study has been an attempt to draw bold inferences from structural anomalies in the phrasing and accentuation heard in present-day Japanese, despite the many limitations in our knowledge of the behavioral facts. After writing the preceding sections, I realize that the boldness of some of the inferences is undoubtedly excessive. For example, I would now reject the notion that Japanese speakers actually invert foreign names, as suggested above; that interpretation is a mere tour de force. What actually happens, apparently, is that the foreign name is treated as a compound noun. Earlier descriptions of the accentuation of compound nouns (summarized in fn. 12) missed a relevant point: When the second element is a foreignism, its accent prevails in the compound, regardless of the accent or provenience of the first element. This accounts for McCawley's *bizin-konkúuru* 'beauty contest' (cf. *bizin* 'a beauty') as well as countless other examples. Some apparent anomalies owe to doublet accentuations in the Japanese borrowings; loanwords like 'market' and 'pamphlet' can be said either prototonically or with the accent on *e*, but compounds are normally made only with the prototonic form, perhaps under the influence of the main noun-compounding rule: *senden-pánhuretto* 'propaganda pamphlet,' *guree-máaketto* 'gray market.' (Similar is 'syrup,' *síroppu* or *siróppu* but *itigo-síroppu* 'strawberry syrup.') Moreover, there are a number of loanwords treated like ordinary Japanese nouns for purposes of compound-accentuation: possibly all the atonic loans—certainly *tabako* 'tobacco,' *garasu* 'glass,' *orugan* 'organ,' *piano* 'piano,' *Ahurika* 'Africa,' *Amerika* 'America'; abbreviations such as *inhure* 'inflation' and *dehure* 'deflation'; and *koohíi* 'coffee,' among others. And there are a few monosyllabic foreignisms such as *pán* 'bread' and *pái* 'pie' that are treated as left-shifting (i.e. "preaccented") suffixes, perhaps by analogy with similar-sounding suffixes of Chinese origin. These facts came to my attention only after I had completed this study; and that is a sobering reminder that much remains to be discovered about the habits of Japanese speakers and the structures that lie behind them.

## REFERENCES

- Chaplin, Hamako Ito and Samuel E. Martin, 1967, *A Manual of Japanese Writing*, 3 vols. New Haven, Yale University Press.
- Chew, John J., Jr., 1963, "Accent in Japanese compounds," *Papers of the CIC Far Eastern Language Institute*, 85-7, Ann Arbor, Committee on Far Eastern Language Instruction.
- Hirayama, Tōruo, 1958, *Zenkoku akusento jiten* [Nationwide accent dictionary], Tokyo, Tōkyōdō.
- Huber, Thomas Edward, 1963, Japanese Compound Nouns, M. A. thesis, University of Washington.
- Jorden, Eleanor Harz, 1955, *The syntax of modern colloquial Japanese*, (Language dissertation No. 52), Baltimore, Linguistic Society of America.
- Jorden, Eleanor Harz and Hamako Ito Chaplin, 1962-3, *Beginning Japanese*, 2 vols. New Haven, Yale University Press.
- Kindaichi, Haruhiko, 1958, *Meikai nihongo akusento jiten* [Explanatory Japanese accent dictionary], Tokyo, Sanseidō.
- McCawley, James D., 1965, The accentual system of standard Japanese, MIT dissertation.
- , 1968, "The accentuation of Japanese noun compounds," *The Journal-Newsletter of the Association of Teachers of Japanese* 5/1.1-9.
- Martin, Samuel E., 1952, *Morphophonemics of standard colloquial Japanese*, (Language dissertation No. 47), Baltimore, Linguistic Society of America.
- , 1967, "On the accent of Japanese adjectives," *Language* 43.246-77.
- , 1968, "On the forms of Japanese adjectives," *Glossa* 2.46-69.
- NHK [Nippon Hōsō Kyōkai—Japan Broadcasting Company], 1966, *Nihongo hatsuon-akusento jiten* [Dictionary of Japanese pronunciation and accent], Tokyo, NHK.

## VERBS AS FUNCTION MARKERS

ANDRÉ MARTINET

Linguists who normally operate with European languages are prone to consider that it is the duty of complements, central or circumstantial, to mark what is widely called their function, i.e., the nature of their relationship to the rest of the utterance. This can be effected by means of some specific marker, a preposition, a postposition, or a case ending. Position before or after the predicative core or some other nucleus is also resorted to. A third possibility is the use of a moneme or phrase that, by itself, indicates its own function: *fast*, in *he drives fast*, *tomorrow*, *last year* carry in themselves the indication of their function, a *how*-function for *fast*, a *when*-function for the others. Such monemes or phrases are said to be autonomous.

As for the predicate, it is often expected that it may, if necessary, change its orientation in regard to the various participants in the predicated action. This is, for instance, what takes place when the passive construction *the murderer was arrested by the policeman* is used instead of the active *the policeman arrested the murderer*. But, whatever the orientation, it remains the duty of the terms designating the participants to indicate their function by means of their position before or after the verb or through some specific marker.

There is, however, another type of function marking whose true nature is apt to be disregarded because linguists intent upon presenting strictly synchronic descriptions are inclined to reduce it to one of the three types mentioned so far. It consists in using one verb per complement and a different one for each, as if the action itself were different when viewed from the point of view of the agent, that of the patient, or that of the beneficiary. The best-known example is afforded by a construction, attested in Pidgins, Creoles, and a large number of languages throughout the world, that may be illustrated by means of *me write letter give boy* for *I write the boy a letter*. Sober-minded scholars will of course point out that *give*, in such a case, is synchronically nothing but a preposition whose connection with the verb *to give* is purely etymological. Therefore, a correct rendering should be *me write letter to boy* with no undue stressing of what is in fact a case of sheer homonymy.

In reality, it may not, however, be easy to decide what rendering does better justice to the structure of the language in cases where verbs are not inflected and consequently are only identified as such through their acting as nuclei for objects. Besides, even if formal criteria should indicate that what is rendered by *give* is nothing here but a function marker with the status of a preposition, it would be worth while keeping in mind

that at some more or less remote period *give* must have been a verb, the same verb as in what we imitate as *me give letter* for *I give a letter*. In some French Creoles, the dative relationship is marked by *ba*. This form is a reduction of *baille* from the obsolete Fr. *bailler* 'to grant' whereas *donne* is the normal equivalent of 'give.' This points to a period when the two verbs, *donne* and *baille*, were specialized, the former with the meaning 'give,' the latter with that of 'give to, bestow upon,' each one followed by its regular direct object. It is a far cry from this to a situation where for each type of exchange, we would have two different verbs, one whose object would be the item exchanged, another whose object would be the recipient, so that *I write him a letter* would turn out as *me write letter send him*, *I give him some bread* as *me give bread grant him*, *I explain the situation to him* as *me explain situation tell him*, and so forth. Such a function marking system would strike us as intolerably redundant, unwieldy and uneconomical. We are tempted to believe that, if it ever in fact existed, it must soon have been simplified by generalizing one and the same verb for the expression of the various actions as seen from the point of view of the beneficiary. The exact nature of the exchange would still be made clear by the co-existent verb introducing the item exchanged. In other words we would suppose an evolution leading to the type of syntax we have found in the above-mentioned Creole. Still, there is little doubt that what is covered by the dative constructions of ancient and modern European languages corresponds to a variety of physically very different processes and situations, and we should not be too surprised if some language insisted on distinguishing at least some of them.

In this connection, it is worth noticing that we are not tempted to brand as cumbersome and uneconomical the existence and constant use in English of whole series of verbs corresponding to the same physical process, but with different ways of considering or stressing the relations of that process to its objects or participants. The use of speech, for instance, is the physical basis of the actions expressed by means of *to speak*, *to talk*, *to say* and *to tell*. But *to speak* is originally intransitive and lays stress on the production of speech rather than on communication; *to talk* is also intransitive, but definitely implies an exchange of information or, in other words, the presence of a recipient; with *to say*, the stress is again on the production of speech, but in a transitive way so that what counts is the product rather than the action itself; *to tell*, like *to talk*, implies the transfer of information to a recipient, but, normally, with an indication of what that information is or amounts to. It is true that both *speak* and *talk* can be used transitively. And, of course, further relationships can be established by means of prepositions between each one of those verbs and other items or participants. It would thus seem that the choice of one or another is determined by the need of expressing some shade or shades of meaning inherent in them rather than by the necessity of expressing one or more specific function. English syntax is supple enough to make one and the same verb fill the most varied needs. Yet it cannot be denied that the four above-mentioned verbs differ more in their relations to the participants than in the very nature of the process they evoke.

Considering what precedes, it is easier now to conceive of a syntax where verbs would regularly be used as function markers, i.e., where every participant, agent included, would require its own predicative nucleus, where, for instance, *the man tells a boy the news* would appear as *man speaks—addresses boy—tells news*. The lexical extravagance this seems to imply would be compensated for by the extreme simplicity of grammatical relations, the noun standing every time in the same relation to the nucleus, so that a more accurate rendering of the above statement would be *man-speaking—boy-addressing—news-telling*, the relation of *man* to *speaking* being linguistically the same as that of *boy* to *addressing* and *news* to *telling*.

Positing such a syntax may help us understand the real nature of the so-called ergative construction. The very use of that phrase as a wholesale characterization of the syntax of certain languages bears witness to the amazement of Indo-European scholars when faced with the use of an agentive complement for what they are wont to identify as the subject. After recovering from the shock, they arrive at the conclusion that in 'ergative languages,' verbs are always used in the passive voice: if, in communicating the experience of a man killing a bear, the man is presented as an agent marked as such by some ending or preposition as in *by man, bear*, the patient, will be interpreted as the subject of a passive *is killed*. But, in a language where speakers cannot choose between an active and a passive, there is no passive but a verbal form indifferent to voice, just as nouns, in Indo-European languages, do not distinguish between active and passive: Latin *metus hostium* refers to the fear experienced by the enemy as well as that aroused by him. In order not to misunderstand the situation in an 'ergative language,' it is advisable to use a nominal rendering of the verb, whence, in the present instance, *killing of bear* or *bear-killing*. If the experience to be communicated involves only an action and a single participant, the moneme corresponding to that participant will not receive the ergative mark, even if he is the one who actually acts, as for instance, in *the man walks*. Formally, *man* will be handled here in the same way as *bear* in the preceding example, and a corresponding nominal rendering would be *walking of the man* or *man-walking*.

What is really important and interesting here is the fact that the ergative case is not supposed to mark the agent whenever there is one, but only with such verbs as *kill* whose most likely and immediate determinant is not the agent. In other words, each verb has its normal complement, including what would be a subject in other languages. Should any other aspect of the experience be worthy of mention, its relation to the predicate will have to be expressed by some particular mark.

An understanding, both synchronic and diachronic, of the most varied syntactic structures requires that we should investigate all possible means of function marking, i.e., connecting the various components of a coherent utterance. What seems to be the most economical solution when we consider long sentences with as many different complements as we can imagine, is not necessarily so in daily parlance when what is at stake is focussing the attention of one's hearers on a specific point. Even a

relatively simple three-cornered statement like *a man killed a bear* may prove awkward in practice because the mention of an agent may detract from the pungency of the message. In many instances, it had better be left out even if it is known that it actually was a man who killed the bear. The use of the passive *a bear was killed* or of an indefinite pronoun (Fr. *on a tué un ours*) should not be viewed as an incomplete transform of *a man killed a bear*, with *by a man* omitted, but as the only normal and efficient linguistic rendering of a certain type of experience.

UNIVERSITÉ DE PARIS, FRANCE



# THE NUMERAL 'SIX' IN OLD CHINESE

TSU-LIN MEI AND JERRY NORMAN

The reconstruction of Old Chinese should ideally be based upon the following seven types of evidence:<sup>1</sup>

- (1) Rhymed texts: chiefly *Shih ching*, but also *I ching*, *Ch'u tz'u*, *Lao tzu*, etc.
- (2) Script: phonetic compounds (*hsieh sheng*)
- (3) Textual evidence, which includes (a) loan graphs (*chia chieh*) (b) paronomastic definitions in *Shuo wen*, *Shih ming*, and *Pai-hu t'ung*, (c) *tu jo* 'read as' in *Shuo wen* and similar formulae in Han commentaries, and (d) alternate forms of proper names
- (4) Modern dialect evidence
- (5) Old loan words in Thai and Vietnamese
- (6) Comparison with Tibeto-Burman languages
- (7) Transcriptions of foreign names<sup>2</sup>

It is easy to understand why such an ideal could not be attained in the past. Textual evidence was scattered, and pertinent forms in Chinese dialects and non-Chinese languages were not then available. Even now, some three decades after Karlgren and Tung T'ung-ho did their pioneering work, a large scale reconstruction based upon all the material mentioned above is still not feasible; the preliminary work of collecting and organizing the data in a convenient form remains to be done. But before such a task is accomplished, a useful purpose might be served by showing, in a few cases, how the various types of evidence can be brought to bear upon a single problem. This is our aim in this paper, and the specific problem we have chosen is 六 'six' in Old Chinese.

On the basis of the evidence outlined in the remainder of this paper, we conclude that the Old Chinese word for 'six' had a cluster initial consisting of a voiced dental followed by a sonorant—most probably *-r-*. For the final we follow Yakhontov in reconstructing *-uk* for the class of rhymes in which 六 occurs.<sup>3</sup> For the same word, Karlgren and Tung T'ung-ho have *l̥ōk* (1032a).<sup>4</sup>

<sup>1</sup> The authors wish to thank the Chinese Linguistics Project of Princeton University whose generous support made the completion of this paper possible.

<sup>2</sup> We of course accept the premise that all speculation about Old Chinese must begin from some reconstruction of the *Ch'ieh yün* language. At present Karlgren's version seems adequate for most purposes.

<sup>3</sup> As in 目 *\*m̥uk*; S. E. Yakhontov, *Drevnii Kitaiskii Yazyk* (The Old Chinese Language), (Moscow, 1965), p. 15.

<sup>4</sup> Number after transcription refers to *Grammata Serica Recensa*.

The *Kuang-yün sheng-hsi* and Chu Chün-sheng's *Shuo-wen t'ung-hsün ting-sheng* both gave the following phonetic series. (The transcription is in Karlgren's Middle Chinese.)

(x) 六 *liuk* (y) 𠂔 *liuk* (z) 𠂔 *m̐iuk* (w) 𠂔 *iuk* (q) 𠂔 *d'uk* (r) 𠂔 *d'uk*

The implication is that (w), which went through a graphic mutation into 𠂔, is the phonetic in many words with a voiced dental initial, for example, GSR 1023 a. 賣 c. 償 j. 漬 k. 𠂔 m. 讀 o. 𠂔 (a-c *iuk* [ $< *d̐iōk$ ]; j-o *d'uk*). And on the basis of this phonetic series, it might be argued that (x), (y), and (z) each had a voiced dental initial in Old Chinese.

But this phonetic series has been questioned by previous philologists, and Karlgren shows his agreement with the skeptics by putting (x) to (z) into one series (1032) beginning with 六, and (w) to (r) into another (1023) beginning with 賣. We therefore need to decide whether the phonetic series is valid, and this raises three questions: (1) Is there sufficient graphic evidence? (2) Can we show independently that those forms which lacked a dental in Middle Chinese—that is, (x), (y), (z) and others to be discussed—had a dental in Old Chinese? (3) If we do decide that the phonetic series is valid, how do we explain the range of phonetic variation in Middle Chinese exhibited, not only by the forms cited above, but also by the other members of this series?

(y) is attested neither in the oracle bones, nor in the bronze inscriptions. There is an oracle bone graph 𠂔, which T'ang Lan (唐蘭) alone among epigraphists identified as (y) 𠂔; but he believed that the graph is the drawing of a lizard.<sup>5</sup> Even if he is right, the purported ancestor of (y) does not have 六 as its phonetic. 賣, 償, and 𠂔 are attested in Chou bronze inscriptions as 賣, 償, and 𠂔. (GSR 1023, p. 268; *Chin-wen pien* 金文編 Nos. 0834, 1081). Karlgren's identification of the upper part of the phonetic as 省 (GSR, p. 268) is probably correct. Now, with both (y) and (w) (𠂔~賣) failing to exhibit unequivocally the requisite graphic structure, the phonetic series under scrutiny clearly has no validity for the pre-Ch'in period.

There is however still the possibility that the phonetic series is valid for the small seal and hence for Han Chinese. The graphic evidence for the small seal as exhibited below is quite satisfactory. What remains to be shown is that a majority of the forms without a voiced dental initial in Middle Chinese did have one in Old Chinese. For this purpose, let us turn to some textual evidence.

The *Shuo wen* says:

(SW1) 𠂔, 菌兴地草叢生田中, 从艸六聲

(SW2) 𠂔, 土塊, 𠂔, 𠂔也, 从土𠂔聲, 讀若逐<sup>6</sup> (逐,  $*d'jōk$  1022a)

<sup>5</sup> 唐蘭, 天壤閣甲骨文存考釋 quoted in 李孝定, 甲骨文字集釋 (Academia Sinica, Taipei, 1965), p. 0195 ff.

<sup>6</sup> Hsü K'ai's (徐鍇) version of *Shuo wen* has 逐 for 逐; our citations are from the 1963 Chung Hua edition. In *Chi yün* (集韻), 𠂔 is listed under both 六 and 逐, but this is probably based upon *Shuo wen* and therefore cannot be counted as independent evidence.

(SW3) 𡗗(賣), 街也, 从目𡗗聲, 𡗗古文陸, 讀若育(育, \**d̥iôk*, 1020a)

(SW4) 睦, 目順也, 从睦聲, 一曰敬和也, 𡗗古文陸

(SW5) 陸, 高平地, 从自从壘, 壘亦聲

Among these, the two *tu-jo* 'read as' glosses are particularly significant.<sup>7</sup> (SW2) and (SW3) respectively tell us that 壘 and 睦(𡗗) show contact with dental initials in Old Chinese. Additional evidence is provided by the paronomastic definitions in the *Shih ming*.<sup>8</sup>

(SM1) 讀 \**d'uk*/*d'uk*

睦 \**ml̥iok*/*ml̥iuk*

(SM2) 讀 \**d'uk*/*d'uk*

錄 \**liuk*/*liwok* (1208m)

(SM1) confirms the fact, already indicated by (SW3), that 睦(𡗗) shows contact with voiced dental initials. Since 六 \**liuk* and 壘 \**liôk* are close phonetically, (SM2) enhances the likelihood that the 賣-series is a continuation of the 六-series.

On a tripod made during the Chien-wu reign period (25–55 A.D.) of the Han dynasty, the numeral 六 is written as 壘.<sup>9</sup> Now, since the *Shuo wen* was completed about 100 A.D., and Hsü Shen tells us that 壘 is to be read as 逐 (\**d'îôk*, SW2), it is reasonable to assume that 六 was also pronounced similarly to \**d'îôk*.

陸 also shows contact with dental initials. 陸終 (Lu Chung) and 祝融 (Chu Yung) are the names of two mythical or semi-mythical figures occurring in old texts.<sup>10</sup> These two figures turn out to be identical, and later Chinese scholars have argued this identification partly on the ground that the four finals in the two names form identical pairs.<sup>11</sup> The underlying hypothesis is that these two names are phonological (dialectal?) variants. We accept this hypothesis, and will argue on this basis that 陸 has a dental cluster. In fact, two further names have been proposed as variants of Lu Chung–Chu Yung: 燭龍 (Chu Lung) and 條壘 (T'iao Yung),<sup>12</sup> thus giving us four forms altogether. Their phonetic transcription in Karlgren's Old Chinese is:

祝 *îiok* (1025a) 燭 *îiuk* (1224e) 條 *d'îôg*<sup>13</sup> 陸 *liôk* (1032f)

融 *dîông* (1009d) 龍 *liung* (1193a) 壘 *dîung*<sup>13</sup> 終 *îîông* (1002e)

The fact that the first syllable of all the other three names begins with a dental implies the presence of a dental cluster in 陸.

<sup>7</sup> See Lu Chih-wei, "A Phonological Study of the *Tu-jo* Notations in *Shuo wen*" (in Chinese), *Yench. J. Ch. St.* 30 (1946), p. 221, for a different interpretation.

<sup>8</sup> Nicholas Bodman, *A Linguistic Study of the Shih Ming* (Harvard University Press, Cambridge, Mass., 1954), p. 60 and p. 81. Bodman regarded these two items as irregular residues.

<sup>9</sup> 孫詒讓, 「漢衛鼎考」, 續高述林, chüan 7, pp. 32–33 quoted in Chou Fa-kao, "Numerals in Ancient Times" (in Chinese), 中央研究院院刊, 1 (1954), p. 133.

<sup>10</sup> 山海經海內經, 大戴禮記帝繫篇, 史記楚世家.

<sup>11</sup> 郭沫若, 「金文所無考」, 金文叢考 (郭沫若文集 14, pp. 580–581); 聞一多, 「伏羲考」, 聞一多全集, 1, p. 40; 楊寬, 「中國上古史導論」, 古史辨, 7, pp. 314–318.

<sup>12</sup> Wen I-to and Yang K'uan, *ibid.*

<sup>13</sup> These graphs occur in 山海經東山經, but not in GSR. Kuo P'u's (郭璞) commentary says they should be pronounced as 條容.

Here we may note that the graph 龍 *liwong*, which occurs in this series of names, belongs in a phonetic series similar to 六 *liuk* in a number of ways. The *Shuo wen* says that 龍 is 童省聲 "has an abbreviated 童 *d'ung* as its phonetic." Further contact with dental stops can be seen from the graph 龍 *i'iwong* in which *liwong* is phonetic. An etymological connection between 龍 and 虫 *d'iung*, both referring to snake, is also likely.

We may summarize the textual evidences presented so far by rediagramming the phonetic series 1032-1023.

(x) 六	(y) 𣎵	(z) 𣎵 (睦)	(w) 𣎵	(q) 𣎵	(r) 讀
	(y) 𣎵	(s) 壘	(t) 陸		

The existence of a voiced dental has been shown from independent sources for all members of this phonetic series except (y): Thus (s) from *Shuo wen tu-jo* 'read as,' (x) from the use of (s) as a loan graph, (z) from both *Shuo wen tu-jo* and *Shih ming* paronomastic gloss, and (t) from alternate forms of the same name. From this evidence we conclude that the phonetic series is valid for the small seal at least.

In a number of northwestern Fukien dialects (Chien-ou, Chien-yang, Shao-wu and Yung-an) there is a class of words having initial *s-* which corresponds to Middle Chinese *l-* and to Proto-Min<sup>14</sup> \**l-*, e.g.,

	Chien-ou	Chien-yang	Shao-wu
卵 'egg'	soŋ <sup>2</sup>	syŋ <sup>2</sup>	ˈson
郎 'son-in-law'	ɛsoŋ	ɛsoŋ	—
雷 'thunder'	ɛsou	ɛsui	—
螺 'snail'	ɛsou	ɛsui	ɛsoi
籃 'basket'	ɛsaŋ	ɛsaŋ	san <sub>2</sub>
聾 'deaf'	ɛsoŋ	ɛsuŋ	suŋ
露 'dew'	su <sup>2</sup>	su <sup>2</sup>	—

This is reminiscent of a similar phenomenon found in Old Chinese loans in Vietnamese by Wang Li and Haudricourt.<sup>15</sup> The three words *sú'c* 'strength' <力 Middle Chinese *liək*, *sen* 'lotus' <蓮 Middle Chinese *lien*, and *sáp* 'wax' <臘 Middle Chinese *láp* are Haudricourt's examples. Haudricourt points out that Vietnamese *s-* is related to clusters of the type Consonant + *r* in Bahnar, Khmou, and Thai cognates; he cites the Bahnar, Khmou, Thai example *prək* 'squirrel' which is *sóc* in Vietnamese. These clusters persisted until a very recent date, so that, as Wang Li points out, Chinese words with initial *l-* are often used in the old native writing system to write words now having

<sup>14</sup> Proto-Min is a language reconstructed on the basis of a series of closely related coastal Min dialects (Foochow, Amoy, Chaochow, Lungtu); Pre-Min takes into account features of less closely related dialects in NW Fukien. Data on NW Fukienese dialect forms is from J. Norman's field notes collected in Taiwan in 1965-1967.

<sup>15</sup> André G. Haudricourt, "Comment Reconstruire le Chinois Archaïque," *Word* 10 (1954), p. 358.

*s*-,<sup>16</sup> at the time the characters in question were created, the Consonant + *r* clusters apparently still persisted. By analogy then, we can argue that in NW Fukienese dialects, this *s*-, which corresponds to Middle Chinese *l*- and Proto-Min \**l*-, derives from clusters of the type Consonant + *r*. The number six is one of the words having initial *s*- in Chien-yang and Shao-wu:

	Chien-yang	Shao-wu	Proto-Min
六 'six'	su <sub>2</sub>	su <sup>2</sup>	*luk <sub>2</sub>

On the basis of this evidence and the Vietnamese analogy we reconstruct the Pre-Min<sup>14</sup> form for 'six' as \**Cr*uk, where \**C* stands for some consonant. In Coastal Min the evolution was \**Cr* > *l*, and in the NW dialects of Chien-ou, Chien-yang and Shao-wu it was \**Cr* > *s*. On the basis of this Pre-Min form and Middle Chinese, we can surmise that Old Chinese had a similar or even identical cluster, so that we have the further rule Old Chinese \**Cr* > Middle Chinese *l* (or *l*<sub>i</sub>).

Li Fang-kuei's Proto-Thai reconstruction of the word for 'six,' \**xr*ok, is strong corroboration for our Pre-Min reconstruction.<sup>17</sup> And Old Tibetan *drug* and Old Burmese *k'rok* further indicate that the medial in Old Chinese 'six' is -*r*.

A. E. Yakhontov has recently proposed some new ideas concerning the phonology of Old Chinese which have some bearing on our problem.<sup>18</sup> He proposes, among other things, a totally new solution to such phonetic series as the following:

MC	OC (Karlgren)	MC	OC (Karlgren)
余 <i>iwo</i>	<i>djo</i> (82a)	羊 <i>iang</i>	<i>zjang</i> (732a)
徐 <i>ziow</i>	<i>dzjo</i> (82p)	祥 <i>zjang</i>	<i>dzjang</i> (732n)
途 <i>d'uo</i>	<i>d'o</i> (82u)	詳 <i>zjang</i>	<i>dzjang</i> (732q)
		羌 <i>k'iang</i>	<i>k'iang</i> (712a)

Karlgren derives Middle Chinese zero initial words (the 喻 (以) initial of traditional phonology) from an Old Chinese \**d*-, and Middle Chinese words having *z*- from an earlier \**dz*-. Depending on the phonetic series, Yakhontov derives the same initials from either *d*- (or *δ*- if the four-way contrast is rejected), *g*- (*γ*-) or *g*<sup>w</sup>- (*γ*<sup>w</sup>-).<sup>19</sup> He provisionally postulates two different semivowels to account for the two varying developments into Middle Chinese; in Yakhontov's version the two series cited above appear as follows:

MC	OC (Yakhontov)	MC	OC (Yakhontov)
余 <i>iwo</i>	<i>djā</i> (δjā)	羊 <i>iāng</i>	<i>giāng</i> (γiāng)
徐 <i>ziwo</i>	<i>diā</i> (δiā)	祥 <i>ziāng</i>	<i>giāng</i> (γiāng)
途 <i>d'uo</i>	<i>d'a</i> (δa)	羌 <i>k'iāng</i>	<i>k'iāng</i> (k'iāng)

<sup>16</sup> Wang Li, *Han-yü shin lun-wen chi* (K'o-hsüeh ch'u-p'an she, Peking, 1958), p. 396.

<sup>17</sup> Li Fang-kuei, "Consonant Clusters in Tai," *Language* 30 (1954), p. 378. We are indebted to Professor Li for sending us the reconstructed final. We assume that the Thai form is an early loan from Chinese.

<sup>18</sup> S. E. Yakhontov, *op. cit.*, pp. 30-31.

<sup>19</sup> We accept the second solution as the more likely one, and use it subsequently in this paper.

Noting that \* $\delta$ - always produces a final containing the semivowel - $\dot{\imath}$ - in Middle Chinese, Yakhontov speculates that \* $\delta$ - as a yod-producing element may account for this medial in many other words:

How can we explain (the) medials in Old Chinese? It is not impossible that one type of medial is the vestige of derivational prefixes which once existed. We frequently encounter pairs of related words which differ from one another by the presence or absence of a medial. For example, 入 \* $n\dot{\imath}up$  'enter,' 納 \* $nup$  'let in,' 亡 \* $m\dot{\imath}ang$  'perish,' and 荒 \* $s-mang$  'desolate.' It is possible that in the words 'enter' and 'perish' there was originally some sort of voiced prefix, for example, \* $\delta$ -: 入 \* $\delta-nup$ , 亡 \* $\delta-mang$ . We already know that a medial always co-occurred with a voiced unaspirated consonant . . .<sup>20</sup>

Following Yakhontov we can reconstruct Old Chinese \* $\delta$ -*luk* from Middle Chinese *l̥uk*. Our phonetic series, then, appears as follows in this system:

	MC	OC (Yakhontov)
六 陸	l̥uk	$\delta$ -luk(< $\delta$ -ruk)
賣	l̥uk	$\delta$ l̥uk
讀	d'uk	duk
續	z̥iwok	$\delta$ iuk
贖	dz'iwok	d̥iuk
贖	luk	luk <sup>21</sup>
寶	d'əu	du
睦	m̥iuk	$\delta$ -muk

Recently Pulleyblank and Bodman have argued that the affricates *ts*, *ts'* and *dz* in Middle Chinese come from earlier *st*, *st'* and *sd*.<sup>22</sup> If this is true, the remaining forms would seem to fit into the series in the following way, (that is, if they belong to this series at all).<sup>23</sup>

竈	tsâu	stu
歎	ts̥iuk	st̥iuk
竈	ts̥iuk	st̥iuk

Thus, this complicated phonetic series is unified by finals of the same category (類) on the one hand, and by initial clusters containing at least one dental stop (or fricative, depending on the phonetic nature of \* $\delta$ -) on the other hand. The phonetic series

<sup>20</sup> *Op. cit.*, p. 32. For *sm->x-*, see p. 31, also Yakhontov, "Consonant Combination in Archaic Chinese," *XXV International Congress of Orientalists* (Moscow, 1960).

<sup>21</sup> The fact that this graph is of relatively late origin may explain why it does not have a dental.

<sup>22</sup> Edwin Pulleyblank, "The Consonantal System of Old Chinese," *Asia Major* 9 (1962), p. 133; Nicholas Bodman, "Tibetan *sdud* 'Folds of a Garment,' the Character 卒, and the \**st-* Hypothesis," to appear in the *Bulletin of the Institute of History and Philology*. We are indebted to Professor Bodman for sending us a copy.

<sup>23</sup> These forms are found in the *Kuang-yün sheng-hsi*.

containing 龍 is very similar in this respect, though, of course, there are other complications.

童 *dung*    龍 *δ-lung*    寵 *tjung* < ? *tlung*    龐 *blung*

Old Chinese clusters containing *l* seem to correspond to clusters having *-r-* in cognate Tibeto-Burman languages. Some of the evidence cited here implies that in the Old Chinese period Middle Chinese *-l-* may in fact have been *r*. Few, if any, convincing Chinese cognates to Tibeto-Burman *l* have been proposed so far.

The best reconstruction of Old Chinese is the theory that accounts for all the data in the simplest way. In the case of the numeral 'six' we are fortunate enough to have most of the data on hand, and it seems that Yakhontov's theory provides the most economical explanation. In other cases, however, the relevant evidence is widely scattered. All the more, then, should we apply ourselves to the task of collecting and codifying what material is available, for only after that is done can we evaluate competing theories objectively.

Synopsis of forms for 'six' discussed:

OC (Karlgren)	* <i>liôk</i>	GSR
OC (Yakhontov)	* <i>δ-luk</i> (< <i>δ-ruk</i> )	See above
Proto-Min	* <i>luk</i>	J. Norman's unpublished M. A. thesis, Univ. of California, Berkeley 1965
Pre-Min	* <i>Cruk</i>	
Classical Tibetan	<i>drug</i>	Jäschke
Written Burmese	<i>k'rok</i>	Judson
Proto-Thai	<i>xrok</i>	Li Fang-kuei

# ETYMOLOGIKA

KARL H. MENGES

Während der Arbeit an den türkischen Elementen im Serbo-Kroatischen hat sich eine ganze Reihe von Etymologien der ins Slavische entlehnten türkischen Wörter ergeben. Hier sollen einige Beispiele folgen, die unseren verehrten Jubilar interessieren mögen, auch wenn sie einem Gebiet angehören, das ihm weniger nahe liegt. Einige der gebotenen Beispiele sind inneraltajisch, einige andere dagegen im Altajischen ursprünglich fremd, sodass die Suche nach ihrem Ursprung zu verschiedenen Sprachen und Kulturen des älteren und alten Orients führt. Dass die nun folgenden Skizzen jeweils vom Serbo-Kroatischen ausgehen, ist hierbei nebensächlich; ist das Wort in einer anderen slavischen Sprache früher belegt, so wird das im Text vermerkt.

1. Alt-Russ. *лохань*, Serbo-Kr. *lèdjen*, *lègen*, Gr. *λάγοινος*, *λεκάνη*, etc., "Schüssel, Becken, Tongefäß, etc."

Das serbo-kroatische *lèdjen*, *lègen* "kupfernes Waschbecken" geht zunächst auf Osman. *lāgān* "Schale, Waschsüssel, Kübel" zurück. Dies Wort ist aber ein sehr weit verbreitetes alt-mesopotamisches Lehnwort in vielen Sprachen und hat seine Quellen im Akkad. *liginnu* und *laḥannu*, *laḥnu*, wovon das Letztere schon aus dem Šumerischen, *laḥan*, entlehnt ist (cf. infra). Es ist in verschiedene der nehmenden Sprachen in verschiedenen Formen, d. h. zu verschiedenen Zeiten und durch verschiedene Vermittlersprachen entlehnt worden. Es bedeutet überall eine längliche, flache, offene Schüssel (ohne Deckel), ein Becken, aus Ton oder aus Metall. Im Türkischen liegen folgende Formen vor: Kāšyarī *taḡun* "Milchgefäß," WB Qazan *taḡun* und *lājūn* "лагун, kleiner Zuber mit zwei Böden," nach RADLOFF < Russ.; ausserdem *taxan* "лоханка, Waschbecken," nach RADLOFF ebenfalls < Russ., Qoman. *tahan* (statt *taxan*, wie bei GRÖNBECH, p. 161—der es als "persisch" bezeichnet), "Taufbecken" (Cod. Cum.: "baptisterium"), Osman. *lājān*, älter *لكن* "Becken," nach RADLOFF aus einem Gr. *λακάνη* (?—cf. infra); REDHOUSE ("Turkish-Engl. Dict.", Constantinople 1921) hat *lājān* als vulgäre Form und gibt *lākān* als die literarische, "a large bowl or basin, as a washhand basin, etc."; die moderne Sprache hat lediglich *lājān*. Das Türkmenische hat *lāgān* "id." Das Wort dürfte auch im Azarbijānischen vorliegen. Im Özbekischen ist *lāgān* oft Synonym zum Türk. *tāvāq*, dort "Schüssel (auch irdene, porcellanerne)." Im Persischen findet sich sowohl *lākān* "Waschsüssel jeder Art" wie auch *lāgān* "id.," aber auch "Backschüssel," Dim. *lāgānčā*, wobei STEINGASS *lākān* als arabisch bezeichnet. Das Klassisch-Armenische hat *lakan* und *lekan*, neben *tekan*,



“Becken, Schüssel,” das HÜBSCHMANN (“Armen. Gramm.,” I, 157, 351) als aus dem Persischen wie auch möglicherweise direkt aus dem Griechischen, *λεκάνη*, entlehnt ansieht; er führt ausser den beiden persischen Formen auch noch Arab. *laqan*, *lakan* und Syr. *laqnā* an. Ausser dem Letzteren gibt es im Syr. auch *lāṭnā*. Die georgischen Derivativa sind reichhaltiger: *lagani* (modern) “(photographische) Entwicklerschale,” d. h. “kleine längliche, flache Schüssel,” wohl < Pers. *lagan*; weiterhin *lagvani*, *lagvini* “grosses, in der Erde vergrabenes Gefäss (zur Aufbewahrung von Wein),” von denen *lagvini* wohl die ältere Form ist und direkt auf Griech. *λάγυρος* beruht, wie an *vi*, der alt-georgischen Vertretung für das griechische *υ*, deutlich erkennbar (cf. z. B. K. H. MENGES: “Wieder einmal zum slavischen Wort für ‘Kirche,’” in *Orbis Scriptus*, ČYŽEWŠKYJ-Festschrift 1964, pp. 543 ff.); vom Letzteren abgeleitet ist *lagvinari* “kleiner, breitrandiger Krug”; schwierigere Formen weisen die Dialekte auf: *laḡvari* (Dial. von Rača) “breite Holzschüssel,” *laḡana* (Ingiloi) “Napf, aus dem der Hund frisst” und, in semantischer Parallele zu Kāšgarī *ṭarūn* und Russ. лаговка: *ligiana* (Gurili) “Melkeimer aus Holz” (cf. K. TSCHENKÉLI, “Georg.-deutsches Wb.,” weitergeführt von Y. MARCHEV, Zürich 1961 ff., pp. 658, 660, 682).

Im Slavischen liegen ausser den beiden serbo-kroatischen Formen noch folgende vor: Bulgar. леѣн, лехѣн, лигѣн; Russ., alt, XVII. Jhdt., лѣгинъ (VASMER, II, 24, BERNEKER, 699), лохань, alt-russ., seit dem Ustav Studijskij (Ms. Y 330) des XI./XII. Jhdts. belegt, daneben лоханя, neu лохáнь “Waschbecken, Kufe,” Ukr. лохáня, Poln. *łachań*, in Dialekten *lachania*, *łochania* “Pfanne, Trog, Bassin” (VASMER, II, 62 ff., BERNEKER, 685)—hierherzustellen ist ohne Zweifel auch eine Nebenform mit *-k-* trotz ihrer abweichenden Bedeutung, wie auch BERNEKER (729) anzunehmen geneigt war: Serb. KSl. локаня “*γαστήρ*, ventér” (cf. MIKLOSICH, “Lex. Pal.-Sl.-Gr.-Lat.,” 343) —, Russ. лагún “Trog, Eimer, Fass, bauchiger Tonkrug,” Poln. *łagunica* “Flasche, Legel” (VASMER, II, 4) und Russ.-KSl. лагва “Gefäss,” Alt-Russ. лагвиця “Becher,” wozu Serbo-Kr., Kajkav. *lagev*, *lagva* “Gefäss,” Sloven. *lágav*, gen. *lágve* “Flasche,” *lágva* “Fass,” Čech. *láhev*, gen. *láhve*, Poln. *łagiew*, gen. *łagwi* “Legel, Trinkgefäss,” Ober-Sorb. *tahej*, Nieder-Sorb. *tagwja* “Flasche” < \**tagy*, gen. \**tag-zve* (BERNEKER, 685; VASMER, II, 3 ff.) gehören.

Im Klassisch-Griechischen finden sich *λάγοινος*, *λάγηνος*, *λάγυνος* und *λεκάνη*, daneben *λακάνη*, weiterhin *λεκός*, m., *λέκος*, ntr., *λεκίς*, f., im Neu-Griech. *λεγένι*, *λαγύνι*, *λαγήν*, *λαγῆνι*, *λαγῆνα* — alles willkürliche, teilweise ans klassische Vorbild angelehnte Schreibungen für *lājīni*, *lajīna*, *lajīni*, *lājāni* — wovon wenigstens *lājāni* und *lājīni* aus dem Osmanischen rückentlehnt sind; im Lateinischen *lagoena*, *lagūna*, *lagōna*, *lagēna*, *lagaena* “souche de terse à large ventre,” aus dem Griech. *λάγοινος* etc. entlehnt, aber mit Metathesis und älter *lanx*, f., “Schüssel; plat, plateau (circulaire ou rectangulaire).” Im Germanischen liegt z. B. AHD *lāgele*, MHD *laegel*, *lāgel*, MND *lāge*, Bayr. *lagen*, NHD *Lägel*, *Legel* vor, von welchen das Slav. \**tagy* unmittelbar her stammt; das althochdeutsche Wort geht auf Lat. *lagēna* etc. zurück, während keines der beiden lateinischen Etyma sich ins Romanische weiter vererbt hat, nur dass *lanx* als “Wag-

schale" in Franz. *balance* < *bi-lanx* weiterlebt (cf. z. B. ERNOUT-MEILLET s. v. *lanx*).

Die älteste bekannte Form dieses Etymons ist šumer. *laḥan* in *laḥan giddu* "langes (oder schweres) Gefäß," welches ins Akkadische entlehnt in den Formen *laḥannu* und *laḥnu* vorliegt. MUSS-ARNOLT, "Assyr.-Engl.-Deutsches Wb.," hat nur *laxannu* "vielleicht Gefäß, Schale" (I, 479); das Wort wird mit dem Klassenzeichen *karpātu*, šum. *dug, duk* "Topf, Gefäß" geschrieben. BEZOLD, "Babylonisch-Assyrisches Glossar," p. 158 gibt *laḥannu, laḥānu*, pl. *laḥanni, laḥanāti* (šumer. Lwt.) "ein Gefäß (aus Stein zur Aufnahme von Wasser, Wein, Bier, Honig, Butter); Trog, Schale (?), Krug, Topf (?)," *laḥanatu* "Gefäß; Dirne"; *laḥangiddu* "eine lange Schale." Herr Kollege Frithiof RUNDGREN hatte die Liebenswürdigkeit, mir zu bestätigen, dass nach den Belegen das Wort schon altbabylonisch ist und die Schreibung mit Klassenzeichen šum. *dug (duk)* irdene Gefässe erweist (Brief vom 4. III. "68 aus Uppsala, in welchem er auch noch auf A. SALONENS Beitrag in "Die Hausgeräte der alten Mesopotamier," II: Gefässe, 1966, pp. 225 ff. verweist). Im Akkadischen lässt sich aber auch eine palatale Form, *liginnu*, neben *lignu*, pl. *lignāti* "ein Gefäß; ein Getreidemaass" (BEZOLD, op. cit., 158) und später Syr. *laḡinā* feststellen, deren Bedeutung der von *laḥannu* sehr nahe war. Von hier aus müssen nun diese beiden Formen zu verschiedenen Epochen in die umliegenden Sprachen, wahrscheinlich zusammen mit dem Gegenstand oder mindestens der Technik seiner Herstellung, entlehnt worden sein. In den meisten Fällen liegen zwischen den alt-mesopotamischen und den in fast allen anderen Sprachen vorliegenden Formen des Wortes nicht nur grosse Entfernungen, sondern auch beträchtliche Zeiträume, innerhalb deren die meisten Zwischenglieder verlorengegangen sind. Trotzdem sind einige von ihnen den alt-mesopotamischen in Form wie Inhalt ausserordentlich nahe, wie z. B. Alt-Russ. *лохань*, das auf keinen Fall auf *λεκάνη*, sondern auf östlichere Zwischenglieder zurückgeht, die dem šumerischen Prototyp noch sehr ähnlich waren, sodass auch VASMER, II, 62 f. das Wort aus *laḥan, laḥannu, laḥnu* herleitet. Etwas stärker verändert hat sich schon Kāš. *taḡun*, das aber noch ohne prothetischen Vokal vorliegt. Da Kāšḡarī *taḡun* hat, ist es fraglich, ob Qazan *taḡun* selbst erst aus dem Russischen entlehnt ist, wie VASMER und BERNEKER (685) nach RADLOFF annehmen, obwohl das Vorhandensein der palatalen Nebenform *lāḡin* im Qazanischen dies wahrscheinlich macht. Die Bedeutung im Qazan ist recht speciell, fällt aber nicht genau mit der etwas weiteren im Russischen zusammen. Das russische *ларын*, anscheinend erst im Neu-Russischen belegt, stammt wohl kaum von *λάγυνος, λάγεινος* unmittelbar ab, sondern wohl eher von einer Form, wie sie bei Kāšḡarī, *taḡun*, vorliegt, was darauf hinweist, dass eine solche Form auch weiter westlich als in Türkistan existiert haben muss. Gr. *λάγυνος*, M.-Gr. *λαγύν(ον)* etc. und Lat. *lagoena* etc. müssen ebenfalls auf dieser oder einer sehr ähnlichen Form beruhen. Deren weitere Entwicklung im Deutschen, AHD. *lāga, lāgela, lāge* wurde zur Quelle des russ.-ksl. *лава* "Gefäß," des alt-russ. *лавица* "Becher" und des späteren *лаговка*, das nicht, wie die anderen Ableitungen "Trinkgefäß, Fass," sondern wie Kāš. *taḡun* "Milchgefäß" bedeutet, was doch sicher auf eine gegenseitige Beeinflus-

sung der Semantik des Wortes im Germanischen und der im älteren Türkischen schliessen lässt. Im alt-russ. *легинъ* liegt eine eindeutig palatale Form vor, für die VASMER sicherlich richtig ein türk. \**legin* als Prototyp rekonstruiert, das ausser und neben dem im Osmanischen belegten *lāgān* existiert haben muss; es geht aber wohl kaum auf *λεκάνη* zurück, das VASMER als Quelle der türkischen Formen ansetzt, denn das Osman. *lākān*, das neben *lāgān* vorliegt, kann genau so gut auf dem arabisch-persischen *lākān* wie auf *λεκάνη* beruhen. Das Letztere steht formell und bedeutungsmässig dem arabisch-persischen Wort sehr nahe, es ist zwar auch älter, es muss ihm aber nicht unbedingt zu Grunde liegen, denn *lākān*, *lāgān* können ihrerseits auf verschollenen orientalischen Zwischengliedern—Kontaminationen nicht ausgeschlossen—zwischen *laḥannu*, *laḥnu*, *liginnu* und den späteren semitischen Formen beruhen.

Während *λάγυνος*, *λάγοινος*, *lagoena*, *lagaena*, *lagūna* etc. und *λεκάνη* dem alt-mesopotamischen Prototyp relative nahe stehen, zeigen sich in *λέκος*, *λέκος* (vielleicht auch *λήκυθος* "gehenkelte Ölfflasche zum Anhängen") wie auch Lat. *lanx* schon beträchtlichere Abweichungen, was auf weitere verschollene Zwischenglieder, ohne Zweifel solche mediterraner Natur, schliessen lässt. Das alt- resp. gemein-süd-slavisches \**lonъcъ*, das im Serbo-Kr. *lōnac*, gen. *lōnca*, "ziemlich tiefes Gefäss zum Kochen, gewöhnlich irden, aber auch metallene," Bulg. *лѳнец* "Topf" und Sloven. *lōnac* "id." bedeutet, wird von BERNEKER, p. 732, zwar fragend, aber ganz zu Recht zu *λέκος*, *λεκίς*, *λεκάνη* und Lat. *lanx* gestellt, wohingegen BERNEKERS Alternative, es mit *ληνός* "Trog, Kelter, Sarg, Wagenkasten" zu vergleichen, auch vom vorstehend Gesagten abgesehen, ganz unwahrscheinlich ist.

Von indogermanistischer Seite wurde immer wieder versucht, *λεκάνη*, *λάγοιμος* etc., *λέκος* etc., *λήκυθος* und *lanx* aus dem Indogermanischen abzuleiten und zwar von der Wurzel \**elēq-* "biegen," cf. z. B. FRISK, Griech. Etym. Wb., II, 103, J. B. HOFMANN, "Etym. Wb. des Griech.," München 1949, p. 176, wo auch Lat. *lanx* hinzugenommen wird; sogar BOISACQ, der grosse Zweifel an dieser Etymologie hat, neigt zu diesem Notbehelf ("Dict. étym. de la langue grecque," pp. 568, 577); nur bezüglich *lagōna*, *lagūna* sagen WALDE-HOFMANN, I, 752: "Herkunft unsicher; vorindogermanisch?" Die hier von den beiden Letzteren (ibidem) abgelehnte Zusammenstellung des lateinischen Wortes mit Irisch *long* "Gefäss, Schiff," die FICK vorgeschlagen hatte, besteht im Sinn der Ableitung aus dem Akkadischen und Šumerischen vollkommen zu Recht. KLUGE sagt immerhin im Deutschen Etymolog. Wb., Ausg. von 1963, p. 418 sub *Lägel* < Lat. *lagōna* etc. < Griech. *λάγυνος*, dass "dessen (vorindogermanische?) Herkunft ungeklärt" ist. ERNOUT-MEILLET halten diese lateinischen Wörter für mediterran (s. vv.). WALDE-HOFMANN leiten aber (I, 761) Lat. *lanx* unverzagt "aus \**lenk-s* (nach PERSSON, 'Beiträge,' 478), zu Wz. \**elēq-* 'biegen' in Gr. *λέκος* etc., *λεκάνη* 'Mulde, Schüssel'" ab und setzen hinzu: "mittelmeerländischer Ursprung von *lanx*, *λέκος* (ERNOUT-MEILLET, 496) ist nicht zu erweisen"; sie bleiben daher bei ihrer indogermanischen Etymologie und machen sich keinerlei Gedanken darüber, dass, von anderen Schwierigkeiten abgesehen, ihre

Gleichung semantisch nicht aufgeht, denn die ganzen indogermanischen Ableitungen von *\*eleq-*, *\*le-n-q-* etc. bedeuten "Krümmung, Bogen, Biegung; Tal, Niederung, Flussbett" etc., aber nirgends eine bestimmte Art von Schüsseln, Töpfen, Tongefäßen oder dgl. Deshalb sind Ableitungen jener Wörter aus dem Indogermanischen in das Reich der "gelehrten Volks-Etymologie" zu verweisen.

## 2. Serbo-Kr. *kîp* "Bildsäule," Türk., Mong. *kāp* "Bild, Form, Modell."

Das serbo-kr. *kîp* "Bildsäule," das bei VŮK nur für die Vojvodina belegt ist, geht auf gesamt-türkisches *kāp/kep/kip/gāp* < *\*kāp*/*\*gāp* "Bild, Form, Modell" zurück, das bei Kāšgarī als *kib*, im Alt-Osman. *gib*, nach dem WB als *kāp* im Ojrot und Šor, "Maass, Modell, Leisten, Schema," identisch mit *kep*, im Qazaq, "Sinn, Bedeutung," im Saraj, Qojbat "Möglichkeit"—aber nach RADLOFF identisch mit *kām*, Ojrat, Taranči, Qarājīm (Luck) "Maass, Zeit," was irrig ist, da dies ein Lehnwort aus dem Mongolischen ist—, Karaṛas (KATANOV, "Proben," IX) *kāb* "Abbild," mit Possessiv-Suffix der 3. Person als Postposition, Kāš., Qoman. *kibi*, Osman. *gibi* "wie," Tobol *kibik* "id.," Alt-Qypčaq (*Tūḥfatü-ḍ-Ḍākijjā*;) *kibi*, *kibik* (< *\*kib-i—ōk*), Azarb. *kimi* und *gimi*, Türkmen. *kibi* (veraltet; < Čarataj?), *kimin*, Osman., Qrym *gibi* "id.," Čarāt. (Xwārazm) mit Silbenmetathesis *begin* (FAZYŁOV, Wb., 232); das Ǧāvašische hat *pāk*, nur noch im Dialekt von Sundyr ist *kap* erhalten, ähnlich dem Alt-Osmanischen, in dem *gibi* und *bigi* nebeneinander vorkommen, wie auch im Täfsīr von Qaršy (XII./XIII. Jhdt.) *kābi* und *biki*/*bigi* (ed. BOROVKOV, pp. 168, 100), cf. das obige *begin* und WB Čarāt. *bigin* "id.". Das Jakutische hat *kiāp* "Form, Gestalt." Das Mongolische bietet *keb*, *kāp* "Form, Modell," Bufat. *xep*, *xip* "id.," Qalm. *keb* "id." Als selbständiges Nomen (substantivum) kommt im Türkischen *kāp*, *kip* lediglich in den alten Sprachen, und von den modernen im Süd-Sibirischen, dem Jakutischen und Ǧāvašischen vor, sodass anzunehmen ist, dass *kāp* im Süd-Sibirischen aus dem Mongolischen entlehnt sein wird; *kibi* und *kimin* im Türkmenischen scheinen ebenfalls entlehnt zu sein, während das echt-türkmenische Wort in *gāp* "Vogelscheuche" vorliegt, wie POPPE ("Vergleichende Gramm.," I, 106) annimmt. Aus dem Alt-Volga-Bulgarischen ist das Wort ins Ungarische entlehnt worden, wo es noch die Länge bewahrt hat: *kēp* "Bild, Gesicht, Form", aus der gleichen Sprache ins slavische Alt-Bulgarische und Alt-Kirchenslavische: *капъ*, f., "*εἰκὼν, εἰδωλον*," wovon die slavische Ableitung *капище* "Götzentempel." Das slavische *a* deutet hier auf eine wie im Türkmenischen sehr offene Qualität des türkischen *\*ā* hin. Mit stimmlosem Anlaut und dem Wurzelvokal *i* ist dies Wort nach BERNEKER, p. 504, nicht nur aus allen drei süd-slavischen Sprachen belegt, sondern auch noch aus dem Rumänischen und Albanischen: Bulg. *кип* "Bildsäule," Sloven. *kîp* "Bild, Abbildung; Natur," und im Serbo-Kr. ausser *kîp* die Nebenform *hîp* (fehlt bei VŮK); Rumän. *kip* "Bild, Gestalt, Gesicht," Alban. *k'ipare*, f. pl., "Gesichtszüge." Die Bedeutungen der letzten beiden Wörter sind mit denen des Ungarischen identisch. BERNEKER leitet sie alle aus Ungar. *kēp* mit Verweis auf Ujyrur. *kāp*, *kāb* "imago, forma" ab und hält das bulgarische Wort für

wahrscheinlich aus dem Serbischen entlehnt. Der Anlaut schliesst Entlehnung aus dem Osmanischen aus; die Bedeutung "Bilsäule" im Serbo-Kr. und Bulgarischen, wie bei *капъ*, das in der Periode nach der alt-bulgarischen bald in Vergessenheit gerät, stellt das Wort mit dem alt-kirchenslavischen und alt-volga-bulgarischen in eine engere Beziehung als mit dem ungarischen, wohingegen das Fehlen einer Form mit *č-* im Serbo-Kr. in einigem Widerspruch dazu steht, da dies auf relativ recente Entlehnung hindeuten würde. Das sehr enge lange ungarische *ē* kann in ungarischen Dialekten nicht nur mit *i/i* ablauten, sondern in einem sprachlichen Milieu, dem der Laut fremd ist, mit *i/i* verwechselt resp. durch es ersetzt werden. Dass das Wort im Rumänischen und Slovenischen aus dem Ungarischen entlehnt ist, kann nicht bezweifelt werden, wohingegen der Weg der Entlehnung ins Albanische ("Gesichtszüge") nicht klar ist, da an eine direkte ungarisch-albanische Beziehung kaum zu denken ist; deshalb müsste angenommen werden, dass diese Bedeutung auch schon in der türkischen Gebersprache vorhanden war. Die Nebenform *hīp* im Serbo-Kr., < \**xīp*, ist nicht ohne Interesse und erinnert an durch das ältere Slavische und Byzantinisch-Griechische vermittelte pāčānāgische und qumanische Wörter, in welchen nicht nur *q*, sondern gelegentlich auch *k-* und *-g/-k* als Spirans wiedergegeben werden, wie in *πέχ* < *bāg*, etc. Dies türkische Wort mag mit den verschiedenen vor-osmanischen türkischen Invasionswellen zu den Slaven und auf den Balkan gebracht und dort nicht nur ein Mal und nur an einer Stelle entlehnt worden sein.

Cf. zu *капъ* und Ableitung VASMER, I, 522, woraus auch die weitere Verbreitung des Wortes ins Finno-Ugrische zu ersehen ist; cf. auch LOKOTZSCH, No. 1158, und BERNEKER, p. 486, — wo er noch *капъ* getrennt hält, — und p. 504.

### 3. Serbo-Kr. *kōva*, *kōfa* "(Schöpf-) Eimer," Türk. *qoṛa*, *qova* "id."

Dies serbo-kr. Wort geht unmittelbar auf Osman. *qova* "Eimer" zurück. Die serbo-kr. Nebenform mit *-f-* kann durch die übliche Schwankung *p/f/v* bei türkischen Lehnwörtern, die im Vulgär-Osmanischen ebenfalls die Regel ist, bedingt sein. Im Türkischen ist das Wort ausser im Osmanischen, wo es sowohl als *qova* wie als *qoṛa* vorliegt, seit Kāṣṣarī, *qova* "Eimer," belegt, weiterhin citiert das WB es auch aus dem (Früh-)Čaratajischen, wo es bei Rabṛūzī in der Form *qoṛa* erscheint und an der betreffenden Stelle "Wassermann, Aquarius (im Zodiakus)," Arab. *قور*, bedeutet. Es ist im Türkischen ein altes und wenig verbreitetes Lehnwort; mit *-ṛ-* im Früh-Čaratajischen dürfte es den central-asiatischen Entsprechungen mit *-ṛ-* für *oṛuzisches* und *qypčaqisches -v/-w-* angeglichen worden sein, da der fremde Prototyp hier einen Labial hatte: cf. Pers. *kūb*, Arab. *quffā*, Gr. *κόφινος*, Lat. *cūpa* (>) "Kufe, Tonne," neben *cuppa* "Becher," Baskisch *kopor*, Assy. *kuppa* "Gefäss, Kasten (wohl aus Ton)." Einige der Bedeutungen beziehen sich nicht auf Behältnisse für Flüssigkeiten, sondern solche für feste Gegenstände, daher "Korb, Mahne" etc. (cf. K. H. MENGES, "Glossar . . .," p. 71 s. v. *kūp*); LOKOTZSCH, No. 1125, will die ganze Sippe, die im Romanischen recht verbreitet ist, ebenfalls mit der Bedeutungsspaltung

in "Korb" und "Kübel," von Ar. *quffa* ableiten, welches aber selbst auf älteren Formen beruht.

Die Bedeutung "Mastkorb" für das serbo-kr. *kōfa* beruht nicht auf dem Osman. *gova*, sondern auf einer Kontamination mit romanischen, wohl italienischen, Formen, ebenso das von den Obigen nicht angeführte *kofan* "Truhe," das sich ebenfalls bei LOKOTZSCH findet. Die von ihm hierhergestellten Čech., Poln. *kufř*, (West-) Ukr. *кѣфep* sind zunächst aus dem Deutschen, *Koffer*, entlehnt, das einerseits wie das Engl. *coffer* auf Franz. *coffre*, alt *cofre* beruht. Das weiter von LOKOTZSCH citierte Rumän. *cofă* "Eimer, Holzkanne" hat die Bedeutungen des osmanischen Wortes, aber mag in der Form ebenfalls auf den mediterranen Zweig der Sippe zurückgehen. In ähnlicher Weise braucht das -f- in serbo-kr. *kofa* "Korb, Mastkorb" und in *kofan* "Truhe" nicht als auf der Schwankung p/f/v beruhend angesehen zu werden, sondern mag, wie beim rumänischen Wort, auf eine mediterrane Form zurückgehen. Im Türkischen kann sich dies mesopotamisch-mediterrane Kulturwort sehr früh bereits in eine velare und eine palatale Form, *gova* und *küp*, gespalten haben, es mag aber auch so gewesen sein, dass die palatale Form unmittelbar auf einen iranischen Prototyp wie N.-Pers. *kūb* zurückgeht.

4. Serbo-Kr. *arpalašat*, ipf., "auf jemd. einreden," Türk. *arpa-*, *arba-* "beschwören."

In den stark vom Osmanischen beeinflussten Dialekten von Kosovo und Metohija liegt ein sonst unbekanntes türkisches Lehnwort *arpalašat*, ipf., vor, "überläufen (von allen Seiten), auf jemd. eindringen, zureden, zudringen"; dem Sinn des türkischen Wortes entsprechend könnte man auch in diesem Sinn "beschwören" hinzusetzen, denn es beruht auf dem türkischen *arpa-*, *arba-* "beschwören, bezaubern, behexen, etc.," das noch aus der vor-islamischen šamanistischen Sphaere stammt. Das serbo-kr. Verbum kann natürlich vorerst nur von einem Osman. \**arpa-ša-* kommen, das als solches nicht belegt ist. REDHOUSE hat *arpa*, unter welchem er auf *arbaγ*, *arbaq* verweist, Formen, die auch in den anderen Türksprachen häufig sind, "an incantation, charm recited to cure sickness, entice a snake, etc. (originally a pagan Mongolian word)." Das Wort ist heidnisch, wie REDHOUSE sagt, es ist aber nicht mongolisch. Als Prototyp für das osmanische Nomen *arpa* ist \**arpa-γ* neben \**arba-γ* vorauszusetzen; das bei REDHOUSE angeführte *arbaγ* dürfte čaratajisches Lehnwort sein. Im Ujgurischen findet sich in den Türkischen Turfan-Texten *arwyš* "Zauberformel," im *ēν διὰ δουῶν tarny arwyš* "d'āraṇi-arwyš," wohl tautologisch; Kāšγari hat *arva-* "Zauberspruch murmeln," auch das Cooperativum *arva-š-* und das Nomen *arwaš* "Zauberspruch," das WB *arba-*, Ča., O.-Türk., Tar., Qyryz, Qazaq, Toboľ, Baraba, Tel., Leb., Šor, Sa., Qobj., Qač "id.," auch "Rat geben, Märchen erzählen" (Ča.), "tadeln, zanken, schelten" (Tel.), überreden, schmeicheln, betören, hinter's Licht führen" (Qazaq), mit den Ableitungen: Medium *arba-n-* (Alt., Tel., Leb.), Transit. *arba-t-* (Ča., O. -T.) "besprechen (jemanden), Rat geben," Cooperat. *arba-š-* (O.T.) "zusammen behexen,"

die Nomina verbalia (Qq., Bar.) *arbau*, Ča. *arba-γ*, *arba-q* < \**arba-γ*, und die Nomina actoris dazu Bar. *arbau-žy*, Ča. *arbaγ-čy*, *arbaq-čy*; vom Medium (Tel.) *arbanū* (< \**arba-n-γ*) "das Murren," Tel. *arban-čāq* "verdriesslich, mürrisch," Tel. *arbana-čy*, Leb. *arbana-žy* (< \**arba-n-a* + -čy); daneben Tel. *arbyš* "Zauberei; Murren" und *arbyščy* "Zauberer." Das Osmanische hat noch die Nebenform *xarpa* "to recite incantations" (REDHOUSE, WB) und die Verbalableitung *xarpa-ta* < \**xarpaγ-ta* "schlecht behandeln" (WB); Formen mit *x*-Prothesis sind sonst auf türkischem Gebiet äusserst selten (cf. z. B. Osm. *xarq* < *ar[y]q* "Bewässerungsgraben, -kanal"). In Anbetracht der tungusischen Formen dieses Etymons könnte allerdings die osmanische Nebenform mit *x*-ur-altajische Verhältnisse widerspiegeln.

Das Mongolische hat *arbis* (neben *arvis*) "savoir, connaissance, érudition," das Skr. *vidjā* "scientia" übersetzt, und, wie im Ujgurischen, *arbis darni* "formule mystérieuse, invocation" als Übersetzung für Tibet. རྟོག་ཤྲཱལ་ *rig-šhags* "a spell, charm, magic formula," JÄSCHKE, 527), wo *rig*- "wissen," *vidjā*- und *šhags* "Beschwörung, Beschwörungsformel, magische Formel, magischer Spruch" bedeutet und Skr. *d'āraṇi*, auch *mantra* und *tantra* wiedergibt (cf. JÄSCHKE, s. vv., 526 f., 136). Das mongolische Wort ist aus dem Ujgurischen entlehnt.

Die türkische Familie hat ihre Entsprechungen im Tungusischen: Ewenki *arpu*- im Ingress. *arpu-l*- "wackeln, winken, fuchteln, flattern, plätschern (Fisch im Wasser), (aus-, weg-) fegen" neben *atpu-l*- im Dialekt von der Zeja; Negidal *atpu*-, Udi *akpu*-, Oroči *appu*-, Nānaj *hapota*-, Olča *xarpuli*- "winken, Hand-, Armbewegungen machen, fegen," Manžu *xaptata*- "mit den Flügeln schlagen." Die altajische Sippe hat weiterhin ihre Parallele im Uralischen, cf. Suomi *arpa*- "bezaubern" (cf. RÄSÄNEN, "Mater. zur Lautgesch. der türk. Spr.," p. 109), das aus \**xarpa*- entstanden sein muss.

##### 5. Serbo-kr. *měcet*, Russ. мечеть, Byz.-Gr. *μασγίδιον*.

Im Serbo-Kr. liegt das Wort für Moschee in einer literarischen Form, *māsdžid*, sowie in zwei volkstümlichen vor, *měcet*, *měčit*, die alle auf Osm.-Arab. *masžid* "(kleine) Moschee" zurückgehen. Entsprechungen der beiden volkstümlichen Formen finden sich im Bulgar. und Ukr. мечёт und dem Poln. *meczeta* als die einzig vorhandenen, ebenso wie WB Qazan *măčît*, Tobol *măčît* und Qazaq *mešit* "id.," sie fehlen aber im WB für das Osmanische. Dass sie dort existiert haben müssen, geht aus dem Süd-Slavischen zur Genüge hervor. Die osman. Dialekt-Wörterbücher führen das Wort nicht an, da es fremd ist. Formen, die noch auf die alte arabische qur'ānische Lautform, *masgid-un*, zurückgehen, liegen sowohl den byzantinischen *μασγίτε*, *μασγίδιον*—die z. B. bei Konstantinos Porphyrogenetos vorkommen—metathetisch *μαρίσδιον*, und Georgisch *masgit'i*, wie allen europaischen Ableitungen, Ital. *moschita*, Span. *mezquita*, Deutsch *Moschee*, etc., die alle bei LOKOTSCH, No. 1435 aufgeführt sind, zu Grunde. Sie finden sich auch ganz sporadisch im Osten, so z. B. im Türkistanischen Tafsīr des XII./XIII. Jhdts.,—dort ganz unerwartet—, als *māzgit*, *māđgid*, in einem und demselben Satz mit *masžid* (BOROVKOV, 221) und im späteren Alt-Russischen des

XIV./XV. Jhdts., мезгитъ, welch' Letzteres durch byzantinische wie auch türkische Vermittlung, die noch die ältere arabische Form bewahrt hatte wie im Türkistanischen Tafsir, eingedrungen ist. VASMER, II, 128, muss diese Form für innerhalb des Russischen entstanden gehalten haben, da er zur Erklärung des Lautwandels die novgorodisch-pskovischen Formen дѣжгъ, дожгъ neben sonstigem дождь zum Vergleich heranzieht. DAL' gibt auch die ältere Form мизгѣтъ, f., "tatarische Moschee," für Nižnij Novgorod (II, 848; VASMER, II, 133). Diese letzteren russischen Formen erweisen ebenfalls ein längeres Fortleben—vielleicht auf Grund bewussten Festhaltens—der qur'änischen Aussprache dieses Wortes im Türkischen, als es aus den Lexika bisher bekannt ist.

COLUMBIA UNIVERSITY, U. S. A.



# ON THE MEANING OF SENTENCES IN MODERN JAPANESE<sup>1</sup>

FUJIO MINAMI

## 0. INTRODUCTION

There are various opinions as to the proper study of the content of a sentence. One may analyze the content of a sentence into two categories of meaning—"dictum" and "modus." It is possible to distinguish the syntactic phase and the lexical phase in a sentence. Undoubtedly, a sentence will have some characteristic or characteristics which bring to our notice the existence of these categories or phases, but, it is not always easy to say that a particular meaning belongs to a particular category or phase.

In general, actual studies tend to emphasize or concentrate on some particular problem. There are some studies which stress the modal character of a sentence, while others make a minute analysis of the combinations of lexical elements. It seems inevitable in these studies that the matters emphasized receive the more detailed consideration. But we cannot be contented with the examination of one particular point, since the nature of a sentence is not simple.

This paper will discuss some facts and assumptions concerning the content of the sentence in modern Japanese. However, they are not the results of an analysis thoroughly made from all possible viewpoints and the modal character or syntactic phase of a sentence will be emphasized rather than the lexical phase or dictum.

The author of this paper has once suggested that in the generative process of a sentence (especially in predicative expressions) four levels may be identified.<sup>2</sup> Although these four levels are not clearly defined at all points yet they may be used as a first step in analyzing the content of a sentence.

It may be convenient here to describe these levels in outline.

(1) The first level. The elements constituting the strings of the first level are the ones which appear in the phrases ending with *nagara* <continuous activity>, *te* <state of activity>, *tsutsu* <continuous activity>, etc. The principal elements are:—

<sup>1</sup> This paper is the translation of a paper in Japanese which appeared in 1967. Cf. Minami 1967. I should like to express my gratitude to Professor Shirô Hattori for his constant encouragement in my study of Japanese grammar and for the many valuable suggestions which he has made.

Discussions with some of my colleagues in Tokyo, especially, Mr. Shigeyuki Suzuki, Mr. Akira Matsumoto and Mr. Toshio Ishiwata, have been very helpful.

I am also indebted to Mr. P. Hocker (Monash University) for correcting the English in this paper.

<sup>2</sup> Cf. Minami 1963, 1964, Hattori 1966.

- a) nouns (+case particles, but so-called subject and modifiers which have a temporal denotation are excluded in this case), e.g.,  
*hakoo* <box, objective case>, *uchini* <to a house or home>, *tede* <with hand>, *funekara* <from a ship>.
- b) those adverbs which modify the state of activities expressed by verbs (jōtai-fukushi in traditional Japanese grammar), e.g.,  
*kosokoso* <stealthily>, *nikkori* <(to smile) sweetly>, *yukkuri* <slowly>.
- c) Those adverbs which indicate degree (teido-fukushi in traditional Japanese grammar), e.g.,  
*hanahada* <very, extremely>, *kanari* <fairly>, *sukoshi* <a little>, *yaya* <a little, to some degree>.
- d) phrases which end with *nagara*, *te*, *tsutsu*, etc., themselves.
- e) verbs which correspond to so-called predicates.

In this level, no elements have yet appeared which denote affirmation or negation, politeness, tense, will, presumption, command, interrogation etc., but elements indicating the "causative," "passive," "giving and receiving" and the "exalted" can appear.

(2) The second level. The elements constituting the strings of this level are ones which appear in the phrases ending with *node* <reason>, *noni* <contradiction, in spite of, even though>, *nagara* <contradiction, in spite of, even though>, *nara* <conditional>, *ba* <conditional> etc.

Besides the elements which have already appeared in the first level, the following elements appear:—

- a) the so-called subject with the particle *ga* or some other particles (however, the form of subject having the particle *wa* <topic> is excluded), e.g.,  
*hanaga* <a flower, subjective case>, *uchimo* <also a house, subjective case>, *tedake* <a hand, only, subjective case>.
- b) certain modifiers with the following functions:—
  - i) denoting the negative, e.g.,  
*kesshite* <never>, *chittomo* <... not ... at all>
  - ii) denoting time, e.g.,  
*kinō* <yesterday>, *ashita* <tomorrow>, *kono aida* <the other day>, *itsuka* <some time>
  - iii) modifying the statement expressed by a predicative expression, e.g.,  
*kitto* <surely>, *yappari* <after all, all the same>, *jitsuni* <indeed>, *tonikaku* <at any rate, anyhow>
  - iv) expressing some evaluative view of the activity or state described by a predicative expression, e.g.,  
*saiwaini koto ni*, *saiwaini mo* <fortunately>, *zannen na koto ni*, *zannen ni mo* <to my regret>, *oshii koto ni*, *oshikumo* <it is regrettable ...>, *kanshin na koto ni*, *kanshin ni mo* <to one's credit>
- c) the words which have some indefinite meaning, such as *nani* <what>, *doko*

<where>, *itsu* <when>, *dare* <who>, *dō* <how> or any noun accompanied by the particle *ka*, etc.

- d) the phrases which end with *noni*, *nagara* <contradiction>, *ba*, etc., themselves.
- e) verbs in their forms indicating politeness, tense and affirmation/negation.

The elements denoting will, presumption, command or interrogation have not appeared yet.

(3) The third level. The elements constituting the strings of this level are the ones which appear in the phrases which end with *ga* <contradiction, topic>, *kara* <reason>, *keredo* or *kedo* <contradiction>, *shi* <juxtaposition>.

Besides the elements which have already appeared in the preceding two levels, the following elements appear:—

- a) the so-called topic of a sentence (generally accompanied by the particle 'wa'), e.g.,  
*hanawa* <as to the flower>, *uchiwa* <as to the house or home>
- b) some modifiers denoting possibility, e.g.,  
*tabun* <perhaps, probably>, *masaka* <probably . . . not>
- c) some interjectives, e.g.,  
*hai* <yes>, *iie* <no>
- d) the phrases which end with *ga*, *kara*, *keredo* (*kedo*) or *shi* themselves.
- e) verbs accompanied by the elements denoting probability or presumption or will, e.g.,  
*ikō* <I will go>, *ikudarō* <Probably, (I, he . . .) will go>, *ikumai* <(I, he . . .) will not go>.

The elements denoting command or interrogation etc. have not appeared yet.

(4) The fourth level. Besides the elements which have appeared in the preceding three levels, the following ones appear:—

- a) so-called vocative words, e.g.,  
*okāchan!* <Mum!>, *Kondōkun!* <Mr. Kondō!>, *moshi moshi* <hullo>, *oi kimi* <hey (you)>
- b) conjunctives (which appear mainly in the initial position of a sentence), e.g.,  
*datte* <but>, *de* <and, well>, *sorede* <therefore, so, and>, *sorekara* <and, and then>
- c) interjectives, e.g.,  
*ne*, *nee* <you see>, *aq* [a?] <obs>, *chotto* <hey, hullo>, *oya* <ah, oh>
- d) some words usually accompanying expressions of command or request, e.g.,  
*dōzo* <please>, *zehi* <without fail>
- e) words or phrases interposed in some position in a sentence.
- f) predicative verbs accompanied by the elements which are related to expressions of command, interrogation or various forms of statement (e.g., emphasis, hesitation, some kinds of indirect expression, etc.).

In the nominal as well as in the predicative expressions, there is the possibility of

distinguishing four levels, and corresponding relationships between the levels in both expressions can be seen to some extent.

# 1. THE FIRST LEVEL

Considering the elements constituting the strings of the first level in predicative expressions, it is possible to say that in general the content of this level relates to dictum rather than to modus.

Thus, several semantic features to be considered as belonging in the area of dictum can be abstracted from the combinations of elements in this level, e.g.,

- a) *bisukettoo kajiru* <to nibble a biscuit>  
*ringoo kajiru* <to nibble an apple>
- b) *biruo nomu* <to drink beer>  
*jūsuo nomu* <to drink juice>  
*omoyuo susuru* <to sip thin rice gruel>
- c) *chawan'o waru* <to break a cup>  
*rekōdoo waru* <to break a recording disc>  
*ishio kudaku* <to crush a stone>
- d) *hariganeo mageru* <to bend a wire>  
*tekeo mageru* <to bend a piece of bamboo>

In examples a) *bisuketto—kajiru*, *ringo—kajiru*, the semantic feature “solidness” (or “non-liquidness”) may be identified as opposed to the “liquidness” (or “non-solidness”) in examples b) *biru—nomu*, *jūsu—nomu*, *omoyu—susuru*. From the combinations of the elements in d), we might extract “flexibility” and from c) “non-flexibility” (or “stiffness”).

These semantic features can be seen not only in the combinations of nouns and verbs such as are mentioned above, but also in the combinations of the adverbs of state (jōtai-fukushi, including the adverbial form of adjectives) and verbs or nouns. For instance, *garigari* <an onomatopoeic word describing crunching activity>, and *baribari* <an onomatopoeic word describing the sound of scratching or tearing> can co-occur with the combinations of elements in example a), but another group of adverbs which can appear with the combinations of elements in b) such as *gabugabu* <an onomatopoeic word describing quaffing activity>, *gokugoku* <an onomatopoeic word describing gulping activity>, *zuruzuru* <an onomatopoeic word describing sipping activity> and *ikkini* <at a gulp> cannot. Also, some adverbs appearing in d) such as *gyutto* <with force>, *maruku* <round, in a ring> cannot occur together with the combinations in c). On the other hand, *gachanto* <with a crash> and *konagonani* <in pieces, to pieces, into fragments> can be used with the combinations in c), but cannot with the ones in d).

When an element is accompanied by a modifier which influences such semantic features, the relationship of co-occurrence might change. If *jūsu* <juice> is accompanied by the modifier *kootta* <frozen>, the phrase *kootta jūsu* <frozen juice> may co-occur

with *kajiru* <to nibble, to bite>, *garigari kajiru* <to eat with a crunching sound>. *Toketa bisuketto* <a soggy biscuit—having been dipped into milk for instance> can be used with *susuru* <to sip> or *zuruzuru susuru* <to sip noisily>.

Depending on the treatment of the element (strictly speaking the treatment of the thing or matter expressed by the element), the semantic features in question may differ. We can focus on the “flexibility” (or “non-stiffness”) of bamboo from one point of view, and can say *takeo mageru* (to bend a piece of bamboo). At the same time, it is quite possible to say *takeo waru* (to break a piece of bamboo) where the focus is on the “non-flexibility” (or “stiffness”).

It is also important to notice that the semantic features in question in every combination of elements are always conditioned by the grammatical relationships between co-occurring elements. The semantic features in question will not be recognized unless the grammatical relationships have been identified. Thus for the combination of *sakana* <fish>—*taberu* <to eat>, in the “object—action” relationship, “solidness” would be significant (to eat fish). However, if the grammatical relationship is “actor—action”, the significant features must be “animate” and “living” (e.g., fish eat bait).

Apart from the semantic character of the first level mentioned above, there is another kind of problem which is worth notice. As suggested in § 0, four levels seem to exist in the nominal as well as in the predicative expressions.<sup>3</sup> There are two kinds of nominal expressions which might correspond to the strings of the first level in the predicative expressions or which might be fairly close to them. They are as follows:—

- (1) *jūtakuno mōshikomi* <application for a residence>  
*jōshieno mōshide* <proposal to a superior official>  
*michideno asobi* <playing on a road>  
*kanojotono deai* <meeting with her>  
*gaikokukarano kaeri* <returning from a foreign country>  
*furafurashita ugoki* <tottering movement>  
*nakinagarano uttae* <a tearful appeal>

The predicative expressions which correspond to these nominal expressions are easily found.

- jūtakuo mōshikomu* <to apply for a residence>  
*jōshie mōshideru* <to propose to a superior official>  
*michide asobu* <to play on a road>  
*kanojoto deau* <to meet with her, to come across her>  
*gaikokukara kaeru* <to return from a foreign country>  
*furafura ugoku* <to move totteringly>  
*nakinagara uttaeru* <to make a tearful appeal>
- (2) *imohori* <potato digging>  
*kusatori* <weeding←\*grass taking>

<sup>3</sup> Cf. Minami 1965.

*yamanobori* <mountain climbing>  
*suzuke* <pickles←\*pickling in vinegar>  
*amiyaki* <grill←\*to do meat on a grill>  
*gakkōgaeri* <returning from school>  
*takatobi* <high jumping, in some cases the running away of a criminal, decamping>  
*nanameyomi* <a kind of rapid reading←\*reading diagonally>  
*yochiyochiaruki* <walking with tottering steps>

In (2), also, we can find a corresponding predicative expression for each of the nominal expressions.

*imoo horu* <to dig potatoes>  
*kusao toru* <to weed←\*to pull out weeds>  
*yamani noboru* <to climb a mountain>  
*sunī tsukeru* <to pickle in vinegar>  
*amide yaku* <to do meat on a grill>  
*gakkōkara kaeru* <to return from school>  
*takaku tobu* <to jump high>  
*nanameni yomu* <to read diagonally>  
*yochiyochi aruku* <to walk totteringly>

Roughly speaking, the elements which constitute each of the strings of the two kinds of nominal expressions mentioned above seem to be limited to the ones in the first level of the predicative expressions. However, the elements corresponding to the so-called subject and the elements corresponding to the modifiers denoting time are exceptions and can appear in the nominal expressions in question.

- (1) *hachino hataraki* <bees' work>  
*mizuno nagare* <the flow of water>  
*kyōno asobi* <today's recreation←\*today's play>  
*rainenno mōshikomi* <an application next year>
- (2) *amefuri* <raining←\*rain falling>  
*hitode* <a crowd←\*people coming out>  
*gojioki* <five o'clock getting up>  
*yokugetsubarai* <payment next month>

cf.

- (1) *hachi ga hataraku* <bees work>  
*mizuga nagareru* <the water flows>  
*kyō asobu* <to play today>  
*rainen mōshikomu* <to apply next year>
- (2) *ame ga furu* <it rains>  
*hitoga deru* <people come out>  
*gojini okiru* <to get up at five o'clock>  
*yokugetsumi harau* <to pay next month>

The lack of agreement in the corresponding relationships between nominal and predi-

cative expressions is an interesting problem. It is necessary to examine more minutely the elements which appear in the first level not only of the nominal but also of the predicative expressions. In addition to this, it is possible to see a clear difference in the semantic characters of the two kinds of nominal expressions. All nominal expressions of the second kind have one particular semantic character in common, viz., those nominal expressions and each element constituting the expressions always express some general meaning, and do not describe one particular, uniquely specified thing or matter. *Ame* <rain> in *amefuri* does not mean rain of any particular type or a particular time or place, but rain in general. Similarly, *furi* <falling> does not refer to the falling activity (or state) at a particular time and place. *Goji* <five o'clock> in *gojioki* is not five o'clock on any particular day, and the actor of *oki* <getting up> is not any particular person.<sup>4</sup>

Because of the general character of these nominal expressions, those elements which are used to express some particular specific things and matters can hardly constitute them. Consider, for instance, pronouns such as *kare* <he>, *kore* <this> etc. \**Kare-gaeri* <his returning> or \**koregai* <buying this>, etc., cannot exist, since the content of any pronoun is, as a rule, defined specifically in each context. We cannot think about *kare* <he> in general or *kore* <this> in general. Proper nouns, also, seem to be unable to occur in nominal expressions of this kind.<sup>5</sup>

Unlike the elements of the nominal expressions in (2), those nominal expressions in (1) as well as the elements of the phrases —*nagara*, —*tsutsu*, or —*te* have a more specific (or less general) character. For instance, the elements may be accompanied by some modifiers—*kugayamano jūtakuno mōshikomi* <an application for a residence at Kugayama (place name)>, and may be pronouns—*kanojotono deai* <the meeting with her>. And, the existence of the causative, passive, giving and receiving or exalted expressions in the phrases —*nagara*, etc., might show that the actor or the receiver of the activity is, to some degree, specified.

The elements of the nominal expressions (1) and the elements of the phrases —*nagara* <continuous activity>, —*tsutsu*, and —*te* all seem to specify the content to the same degree. The elements of the nominal expressions (2) specify the content to a lesser degree—i.e., more general, less specific. However, if we compare all the elements discussed above with the elements of the other three levels which are to be discussed below, it becomes obvious that the elements which have tentatively been considered as belonging to the first level, are all of a more general, and less specific character. Regardless of the elements which appear in this tentative first level, it will still be possible to say that its

<sup>4</sup> The nominal expression in question sometimes has a restricted meaning. For instance, *hon'yomi* does not mean reading books in general, but the script reading at a rehearsal. *Utautai* is a singer, not singing in general. *Yochiyochiaruki* is used mainly to describe a particular way in which children walk. However, this kind of restriction is different from the specification of meaning discussed here.

<sup>5</sup> There are some examples of compound nouns which have proper nouns as their constituents, e.g., *Tōkyōiki* <for Tokyo>, *Amerikagaeri* <returning from America>, *Arasukakeiyu* <via Alaska>, etc.

relatively more general, less specific definition of content is one of its important characteristics.

## 2. THE SECOND LEVEL

The specification of meaning is the major characteristic of the second level, although it is doubtful whether it is the only general characteristic of content in this level.

We can distinguish several kinds of specification in this level. One of them is a pair of semantic features which are opposed to each other;

“definite — indefinite.”

The feature “indefinite” can be seen in the predicative or nominal expressions which contain the following elements, i.e.,

<i>nani</i>	( <i>nanika</i> )	<what, something, anything>
<i>dare</i>	( <i>dareka</i> )	<who, somebody, anybody>
<i>doko</i>	( <i>dokoka</i> )	<where, somewhere>
<i>dore</i>	( <i>doreka</i> )	<which, anything, something>
<i>itsu</i>	( <i>itsuka</i> )	<when, sometime>
<i>dō</i>	( <i>dōka</i> )	<how, somehow>

They are better considered not as the constituents of so-called interrogative sentences, but as the elements of the strings of some previous level in the generative process. See the examples below.

*kuruka konaika(ga) wakaranakereba* <if it is not certain whether he will come or not . . . >

*nanio yarukao kiita hito* <the man who asked what to do>

The feature “definite” is seen in all the elements other than the ones mentioned as “indefinite.”

It might be possible to establish another pair of opposing semantic features:

“general — particular.”

The feature “particular” can be seen in such examples.

*Kinōno tsūshin'eiseichūkeino terebiwa omoshirokatta.* <Yesterday's TV programme which came via satellite was interesting.>

*Kanojoga konaida katta handobagguni shimiga tsuita.* <The handbag which she bought the other day has been stained.>

*Ashita karega ikuhazuno kaishawa kyō yasumida.* The office of the company which he is to visit tomorrow is closed today.>

The feature “general” can be seen in the following examples. (Strictly speaking, in the strings of the second level which constitute the following sentences.)

*Chikyūwa mawaru.* <The earth is rotating.>

*Sakurawa kiruna.* <Cherry trees should not be pruned.>

*Umewa kiru.* <Plum trees should be pruned.>

*Gojiniwa ochao nomu.* <Usually (as a rule), we (they) have tea at five o'clock.>

*Tōgarashiwa karai.* <Chili is hot, chili is the thing which is hot (by its nature).>



The elements which co-occur with each other in one predicative or nominal expression may all be considered as being the subject of the same kind of specification, but in this assumption there are a number of problems which must be examined.

The "general" in this level is the feature which is opposed to the feature "particular". It is quite different from the "general" in the first level which appears before the opposition "general—particular."

The expressions which contain the following elements would have some connection with the pair of semantic features "general—particular."

— <i>wake(da)</i>	<to be the case . . . >
— <i>mono(da)</i>	<should . . . , would . . . >
— <i>no(da)</i>	<to be the case . . . >
— <i>hazu(da)</i>	<ought to . . . , must . . . , be to . . . >
— <i>tsumori(da)</i>	<intend to . . . , think of . . . >
— <i>dake(da)</i>	<do nothing but . . . >
etc.	

Although these elements seem to have a character which is close to the content in the third level, they first appear in the second level. *Kimiga jibunkara kibōshite ittato yū wakenara shikataga naidarō*. <It cannot be helped, as you went (to such a place) voluntarily (=if it is the case that you went to such a place voluntarily).> *Nimotsuniwa nifudaga tsukete arumononononi tsukete nakattamonodakara . . .* <The tags should have been fastened to the parcel, but as they were not . . . > *Karega ikuhazunanode watashiwa ikimasen*. <I won't go there, because he is expected to go.> To date insufficient investigation of this level has been made to allow firm conclusions to be drawn, but some tentative suggestions may be made. For instance, the elements 'wake(da)' and *mono(da)* seem to impart the semantic feature "general" (in the sense mentioned in this level) to the predicative expressions. On the other hand, the predicative verbs without these elements, and expressing a particular, concrete activity or state are supposed to be unable to co-occur with any element which has the feature "general." e.g.,

*Ariga hatteru* <Ants are crawling—describes the actual fact of ants crawling on the ground or on the trunk of a tree.>

*Tega tsumetai* <(One's) hands are cold—describes the actual state of the hands, and is not a statement of some constant condition or truth, e.g., *Tega tsumetai hitowa kokoroga atatakai*. <A person who has cold hands has a warm heart. (Cold hands, warm heart)>

The adverbs, *kitto* <without fail>, *tonikaku* <at any rate>, *jitsuni* <indeed>, *makotoni* <indeed>, *yahari (yappari)* <as well, nevertheless> seem to have something to do with the specification of meaning in this level, but the details have not yet been clearly worked out.

The particles *dake*, *nomi*, *made*, *sae*, *shika*, *bakari* (they are all treated as "fuku-joshi" in the traditional grammar) and *wa*, *mo* (both treated as "kakari-joshi" in

the traditional grammar) seem to be important for the content of the second level. In particular, *dake*, *shika*, *bakari*, *wa* (in the case of comparison), and *mo* may have the character which is related to "specification."

The particles *wa* and *mo* first appear in the second level. In this level, *wa* expresses mainly the idea of comparison—one thing is compared with another, while *mo* is used to convey the idea of "this as well as that," e.g.,

*Watashiwa ikanai.* <I don't go (or I won't go)—others may go.>

*Watashimo iku.* <I go too (or I will go too)—as well as others.>

*sakewa nomanaiga tabakowa suu otoko* <a man who doesn't drink but smokes>

*sakemo sukidaga okashimo sukina otoko* <a man who likes liquor as well as cake>

The *wa* which indicates the so-called "topic" seems to have a different character and appear in the third level.

As mentioned above, the modifiers which have an evaluative meaning also appear in this level. They do not co-occur with the predicative verbs accompanied by the elements which express "will," "supposition," or "command," but do co-occur with the predicative verbs in the form —*ta* so-called "past tense" or in the usual indicative form.

Consequently, the meaning of the modifiers is to be considered as having some relationship with the evaluation of an actualized result of some activity or state. Thus, they are related to the specification of time (as to this specification, a pair of opposing semantic features "actualized—non-actualized" may be assumed), and they seem to have a connection with the feature "particular."

*Umaikotoni rinjino kyūkōga deru koton natta.* <Fortunately, a special express was to start.>

*Kanshinnimo arubaitode kakeio tasukete imasu.* <To his credit he is helping his family out by taking a part-time job.>

*Suberikondaga zannennimo autoni narimashita.* <He slid into the base, but, to our regret, was given out.>

However, it is doubtful whether the meaning of the modifiers belongs to this level only or not. It may possibly have some character which is close to the next level (the third level).

The expression which are accompanied by *des* and *mas* (polite expressions) may also have some character closely related to the third level.

### 3. THE THIRD LEVEL

There seems to be a definite gap between the third level and the previous two levels. Several facts which show the differences between them may be mentioned. For example, the strings of the first and second level can constitute the phrases which are used as "adnominal modifiers" ("rentaishūshokugo"), but the strings of the third level, as well as those of the fourth level cannot. Furthermore the particle *wa* (of topic) ap-

pears for the first time in the third level, e.g.,

*Chikyūwa mawaru.* <The earth is rotating.>

*Sorawa aoi.* <The sky is blue.>

*Kokono danchiwa rokakōen jūtaku to iimasu.* <This group of apartment houses is called "Rokakōen jūtaku.">

*Saitōsanwa kono kaishano shachōda.* <Mr. Saitō is the president of this company.>

*Kyabetsuwa happao tabemasu.* <With cabbages (or as for cabbages) we eat the leaves.>

The *wa* in these examples and the predicate which co-occurs with the *wa* in a sentence may have some semantic feature (or features) in common. And the examples *Shichiji-no nyūsudesu.* <Here is the seven o'clock news.>, *Kaeru* <I'm going home, as the answer to the question, e.g., "Are you going home or will you stay here?"> may have the same semantic feature (or features). The problem of what is the essence of the semantic feature is very difficult to solve. Tentatively, the subject's (or addresser's) attitude toward the things and matters expressed in the previous levels, might be regarded as an element of the content of this level. The "subject" (or "addresser") may be called "self" here. And, the attitude in question is "self's attitude." Any regard for the addressee has not yet appeared in this level.<sup>6</sup>

Several kinds of attitude can be distinguished. One of them is:

"will — non-will."

"Will" exists in such forms, *ikō* <I will go, Let's go.>, *ikumai* <I won't go. not the case of supposition>, *ike* <Go!>, *ikuna* <Don't go!>, etc. In *iku* <(I, he . . .) go (goes)>, *ikanai* <(I, he . . .) do (does) not go.>, *itta* <(I, he . . .) went.> "will" does not exist but "non-will."

These pairs of semantic features such as

"supposition — non-supposition"

"doubt — non-doubt"

will be also assumed. "Supposition" is found in *ikudarō* <(Perhaps he) will go.>, *arō* <=*arudarō*, There will be . . . probably.>, *ikumai* <Probably . . . do not go. of supposition>.

"Doubt" can be found in the so-called interrogative sentences.

Furthermore, the degree of the strength of the attitude can be assumed:

"strong — neutral — weak"

(or clear — neutral — vague).

In the phrase —*kara*, the feature "strong" (or "clear") may exist, whereas in the phrases —*ga* and —*keredo* the feature "weak" (or "vague") is apparent. Thus, so

<sup>6</sup> Yasushi Haga has published an excellent paper on the modal character of a sentence which distinguishes two kinds of modality. One of these relates to the speaker's attitude and the other to the appeal and communication (of the content) to the addressee (cf. Haga 1954). The "self" and "addressee" assumed in this paper might have some characteristics in common with those of Shirō Hattori's "the first personer" and "the second personer" respectively (cf. Hattori 1957).

far as the third level concerned, the examples mentioned above, *Chikyūwa mawaru* <The earth is rotating.>, *Sorawa aoi* <The sky is blue.>, *Saitōsanwa kono kaishano shachōda* <Mr. Saitō is the president of this company.> have the set of semantic features set out below:

{non-will, non-supposition, non-doubt, neutral}

The attitude of the "self" has a close connection with the content which has been expressed in the first and second levels. For instance, the feature "will" can appear in the strings which have verbs such as *iku* <to go>, *kaeru* <to return>, *taberu* <to eat>, *nomu* <to drink>, but they cannot appear with *mieru* <can be seen>, *sobieru* <to rise, to soar>, *nomeru* <can drink, can be drunk>, *yomaseru* <in the case of such a meaning "to be worth reading">. Also, "will" has something to do with "tense" which is specified in the second level; "will" cannot appear with any verb forms which describe things or matters actualized in the past.

A group of adjectives, "adjectives of emotion," have some problems in connection with the third level. When an adjective of this kind stands as the predicate of a sentence, there is some restriction of the elements which can be the subject of the sentence.<sup>7</sup> For instance, when an adjective of this kind stands in the final position of a sentence as its predicate and without any suffix, only the so-called "first person" pronouns such as *watashi*, *boku*, etc. can appear as the subject of the sentence. When the adjective is accompanied by *darō*, *nodarō*, *noka*, *hazuda*, etc., the elements of the subject are not limited to the first person pronouns. Similarly, when the adjective is the predicate of a phrase such as *—ba*, *—nara*, *—noni* or the adnominal modifiers ("rentai shūshoku-go"), the subject is not limited.

*Kanojowa sazo kanashiidarō*. <She must be sad.>

*Kimiwa sorede ureshiinoka*. <Are you still happy, in the face of such unpleasant treatment?>

*Aitsumo kurushiihazuda*. <He must be in difficulties, too.>

*karega kanashii riyū* <the reason why he is sad>

*Kono koga sabishikereba (nokotte ite yattemo ii)*. <If this child will feel lonely, (I don't mind staying.)>

*Anatasae tanoshiinara (sorede itnoyo)*. <If only you are happy, (I am contented.)>

The limitation of the subject or a particular correlation between the adjective and the subject seems not to have occurred up to the second level. Such limitation is not found in the phrases *—ba*, *—nara*, *—noni*, etc., or in the adnominal modifiers. The limitation seems to appear in the third level because of the restrictions on the elements which can constitute the subject when an adjective of this kind appears in the final position of phrases such as *—ga*, *—kara*, *—keredo (kedo)*, or *—shi* as well as in the final position of a sentence.

It is less natural as a Japanese expression to say, *Kodomowa hitoride sabishiikeredo*

<sup>7</sup> Cf. Oyama 1966.

*daremo asonde yarimasen* <Nobody will play with the child even though he is lonely.> than to say *Kodomo wa hitoride sabishiinoni daremo asonde yarimasen. Watashimo ureshiiga* ... <I am pleased, but ...> sounds quite natural, but *Anatamo ureshiiga* ... <You are pleased, but ...> sounds a little strange. On the other hand, *Anatamo ureshihazudaga* ... <You must be pleased, but ...> or *Anatamo ureshiidarōga* ... <(Perhaps) you will be pleased, but ...> both sound quite natural.

From these facts, it might be possible to assume certain semantic features in the content of these adjectives which can co-occur with the "self" in this level only when the subject of the sentence or phrase is substantially identical with the "self." When the subject is not substantially identical with the "self," e.g., *kare—sabishii* <he—to be lonely>, *kanojo—ureshii* <she—to be glad>, *anata—tanoshii* <you—to be happy>, etc., such semantic features may collide with the "self." Up to the second level, there is not such a collision, so that the elements of subject other than the "first person" can appear.

Another problem in this level concerns some of the interjections ("replying words"), *hai* <yes> and *iie* <no>. In the question *Shatsu kawanakatta?* <Didn't you buy a shirt?>, the replies *Hai kaimasendeshita* <(Yes,) I didn't buy it.> or *Iie kaimashita* <(No,) I bought it.> must contain the meaning of either agreement with or disagreement with the attitude of the "self" in the question uttered by the addressee.<sup>8</sup>

These elements might better be treated in the fourth level since the existence of "addressee" seems to be the necessary factor of that level. And undoubtedly, there is some semantic character, belonging to the fourth level, in such replying words (e.g. some appeal to the addressee). However, the affirmation or negation of the attitude of the "self" in the sentence by the addressee should be treated in the third level, i.e. *hai*, *iie*, etc. first appear in the third level. And also, one of the reasons for such an opinion is that *hai* or *iie* can be sometimes included in the phrases —*ga*, —*kara*, —*keredo*, or —*shi*. For instance, to the question *Kimitachiwa sokoe ikimashitaka?* <Did you (pl.) go there?>, one can reply *Hai watashiwa ikimashitakeredo, Kondōsanwa ikimasendeshita*. <Yes, I went there, but Mr. Kondō didn't.> If the *hai* in this sentence were considered as not being included in the phrase —*keredo*, the main part of the sentence would be *Hai . . . . . Kondōsanwa ikimasendeshita* <Yes, . . . . . Mr. Kondō didn't go.>.

#### 4. THE FOURTH LEVEL

The general character of the content in the fourth level will be the "self's" appeal to the addressee. In contradistinction to the "self" in the third level, the notion "addressee" is assumed in this level. And, at first, two kinds of the character of addressee are

<sup>8</sup> Instead of the pair affirmation/negation, another pair of semantic features may be assumed: "agreement — disagreement."

In some dialects, mainly those of western Japan a question such as *Anatawa kaimasendeshitaka?* <Didn't you buy (it)?> may have the answer *Iie kaimasendeshita* or *Hai kaimashita*. In the *iie* or *hai* of these replies there may be some meaning which is related to the content in the second level.

distinguished:

“particular — non-particular.”

*Koreo anatani sashiagemsau.* <I would like to give you this.>

*Waga shadewa rainendokara tandaisotsuwa saiyō shinai kotonī kimeta.* <Our company has decided, as from next year, not to employ any person who has graduated from a junior college.>

*Yoshikochanga onēsande, Erikochanwa imōtonanoyo.* <Yoshiko is the elder sister, and Eriko is the younger.>

*Ja futariwa kyōdainandane.* <Then they are siblings, aren't they?>

*Kimiitsu kitandai?* <When did you get here?>

*Korewa anatano kasadesuka?* <Is this your umbrella?>

*Soreja bokuwa dekakeyō.* <Well then, I'll go.>

*Katōsan, sono hende shokuji shimashō.* <Mr. Katō, let's eat at a restaurant near here.>

*Masaka ashita amewa furanaidarō.* <Perhaps, won't rain tomorrow.>

*Mā osuwaribasase!* <Would you sit down, please.>

*Sā nomeyo.* <(You) come and have a drink.>

*Sono shinbun motte kite.* <Bring me the newspaper, please.>

*Kondowa shippai surunayo.* <Don't fail this time.>

*Sonna koto shitara dame.* <Don't (do such a thing)!>

The examples above have particular addressees.

On the other hand, the following sentences have non-particular addressees.

*Un korewa umai.* <Mm, this tastes good!>

*Kyōmo ameka.* <Raining again today?!—monologue>

*Korewa dōshitara inokashira.* <I wonder how I should do this.>

*Sā ikōkana.* <Ah, I think I should go.>

*Iyan natchauna.* <I give up!>

*Yāmeta.* <Well, I've had it.>

*Mō ikōtto.* <Well, I'm off.>

*Sore ike.* <Let's go!—to the speaker himself>

*Yoisho.* <Heave!>

Most of monologues may be of “non-particular addressee,” but all of them are not always so, e.g., a sentence uttered to the speaker himself, *Yai Shirano, reino Berujurak-kunamario wasuremaizo.* <Hei, Cyrano, don't forget your Bergerac dialect!> has a particular addressee in itself.

As for the appeal to the addressee, several kinds may be identified, e.g.,

“demand — non-demand”

“asking — non-asking”

“calling — non-calling.”

There might be some others.

“Demand” appears in the imperative expressions, and “asking” in the interrogative

expressions. Further, there seem to be varying strengths of appeal to the addressee and the particles *ne*, *yo* or *sa* may be related to this. However, the details of this has not been worked out yet.

The following table shows the appearances of the semantic features which have been considered in this paper. Features from a part of the second, third and fourth levels are included in this table. + represents the first item of each pair, and - the second one, e.g., in affirmation/negation, affirmation +, negation -. In strong/neutral/weak, strong +, neutral  $\pm$ , weak -.

semantic features  examples	The Second Level definite/indefinite actualized/non-actualized affirmation/negation	The Third Level strong/neutral/weak doubt/non-doubt suppositive/non-suppositive will/non-will	The Fourth Level calling/non-calling asking/non-asking demand/non-demand particular addressee/ non-part. ad.
<i>Koreo anatani sashiagemasu.</i> <I would like to give you this.>	+ $\pm$ +	- - - $\pm$	+ - - -
<i>Kotoshiwa tomatoo uenaikotoni shita.</i> <I have decided not to plant tomatoes this year.>	- + +	- - - $\pm$	+ - - -
<i>Mō jiki basuga kuru.</i> <The bus will come soon.>	+ - +	- - - $\pm$	+ - - -
<i>Watashimo hontowa ikitaindakeredo.</i> <If I can go, I will (but actually I don't think I can).>	+ + +	- - - -	+ - - -
<i>Watashi mō shiranaikara.</i> <I won't have anything more to do with you.>	- + +	- - - +	+ - - -
<i>Ashitawa mada amewa yamumai.</i> <The rain probably won't stop by tomorrow.>	- - +	- + - $\pm$	+ - - -
<i>Nimotsuwa mō todoitarō.</i> <The parcel would have been already delivered.>	+ + +	- + - $\pm$	+ - - -
<i>Korewa anatano kasadesuka.</i> <Is this your umbrella?>	+ + -	- - + $\pm$	+ - + -
<i>Nanio meshiagarimasuka?</i> <What would you like to eat?>	+ - -	- - + $\pm$	+ - + -
<i>Sudōsanni awanakatta?</i> <Didn't you meet Mr. Sudō?>	- + +	- - + $\pm$	+ - + -
<i>Soreja bokuwa dekakeyō.</i> <Well then, I'll go.>	+ - +	+ - - $\pm$	+ - - -

<i>Katōsan, sono hende shokuji shimashō.</i> 〈Mr. Katō, let's eat at a restaurant near here.〉	+ - +	+ - - ±	+ + - +
<i>Mō anna yatsutowa kuchio kikumai.</i> 〈I will not talk to such a person anymore.〉	- - +	+ - - ±	+ - - -
<i>Sā nomeyo.</i> 〈(You) come and have a drink.〉	+ - +	+ - - +	+ + - -
<i>Kondowa shippai surunayo.</i> 〈Don't fail this time.〉	- - +	+ - - +	+ + - -
<i>Sono shinbun motte kite.</i> 〈Bring me the newspaper, please.〉	+ - +	- - - -	+ + - -
<i>Endō, omae wa torakkuo sanshū hashiru.</i> 〈Endō, you can run around the track three times!〉	+ - +	- - - ±	+ + - +
<i>Un korewa umai.</i> 〈Mm, this tastes good!〉	+ + +	- - - ±	- - - -
<i>Kyōmo ameka.</i> 〈Raining again today?!〉	+ + -	- - - ±	- - - -
<i>Korewa dō shitara iinokashira.</i> 〈I wonder how I should do this.〉	+ - -	- - + ±	- - - -
<i>Sā ikōkana.</i> 〈Ah, I think I should go.〉	+ - -	+ - - ±	- - - -
<i>Yāmeta.</i> 〈Well, I've had it.〉	+ + +	- - - ±	- - - -
<i>Mō ikōtto.</i> 〈Well, I'm off.〉	+ - +	+ - - ±	- - - -
<i>Sore ike.</i> 〈Let's go!—to the speaker himself〉	+ - +	+ - - +	- - - -

THE NATIONAL LANGUAGE RESEARCH INSTITUTE, JAPAN

## REFERENCES

- Haga, Y., "Chinjutsu to wa Nanimono?" (What is the modality of a sentence?) (*Kokugo Kokubun* Vol. 23, No. 4, 1954)
- Hattori, S., "Descriptive Linguistics in Japan" (*Current Trends in Linguistics* Vol. II, 1967)
- "Saussure no *langue* to Gengokateisetsu" (De Saussure's 'langue' and Professor Tokieda's linguistic theory) (*Gengokenkyū* No. 32, 1957)
- Ishiwata, T., "Gengo no Imi to Gengojuhōshori" (Linguistic meaning and its role in language data processing) (*Denshikeisanki ni yoru Kokugokenkyū*, 1968)
- "Kōbunkaisekijidōka no Kenkyū" (A study of automatic syntactic analysis) (*Denshikeisanki ni yoru Kokugokenkyū* II, 1969)



- Minami, F., "Fukubun" (Compound sentences) (*Kōza Gendaigo* Vol. 6, 1964a)  
"Jutsugobun no Kōzō" (The structure of sentences with a predicate) (*Kokugokenkyū* No. 18, 1964b)  
"Meishitekihyōgen no Kōzō" (The structure of nominal expressions) (*Kokugogaku* No. 63, 1965)  
"Bun no Imi ni tsuite no Ni San no Oboegaki" (Some remarks on the meaning of sentences) (*Kokugokenkyū* No. 24, 1967)
- Oyama, A. "'No' 'Ga' 'Wa' no Tsukaiwake ni tsuite" (On the use of "no," "ga" and "wa") (*Kokugogaku* No. 66, 1966)
- The National Language Research Institute *Hanashikotoba no Bunkei* (2) (Sentence patterns of modern colloquial Japanese, 2) (1964)

# ON SOME HONORIFIC EXPRESSIONS IN MONGOLIAN

NICHOLAS POPPE

There exists hardly a language which completely lacks words synonymous with other words but used only in polite or elevated speech. Thus when speaking of a person who has died, one uses, especially in the presence of the bereaved, the expressions *he passed away, the deceased*, etc., the French say *défunt*, the Russian—*pokojnyj*<sup>1</sup> (“the one who is in peace”), etc. These facts are commonly known. Some languages have relatively few words or expressions of this kind but there are languages which possess large numbers of special words or expressions which are used on particular occasions and only when speaking to or about a respected person. The vocabulary of some languages contains, on the one side, words which are used on occasions which do not require solemn, elevated or particularly polite expressions, and on the other hand, honorific words and expressions which are obligatory when the speaker refers to or addresses a person socially higher, senior in rank, older or otherwise superior.

One of such languages is Japanese which has developed means and ways to express things in a highly elaborate and polite manner. *Keigo*, as honorific speech is called in Japanese, has its vocabulary and special morphemes (prefixes such as *o-* or *go-*, suffixes as *-san* or *-sama*). Thus, a library is called *bunko* but the palace library in Tokyo is referred to as *obunko*. There are ways and means to form honorific verbal forms, etc.<sup>2</sup> It goes without saying that the Japanese use special words in letters and refer to the addressee's wife as *okusama*, to his father as *genkun* (which is now obsolete), etc.<sup>3</sup>

Something similar is found in Korean. In Korean *Kjeŋe*, as the honorific speech is called, there are polite and honorific expressions for rice (*činjŋi*, lit. “nourishment” versus *pap* which is an everyday word), house (*täk* versus *čip* which is an ordinary word), for someone's father (*pučhin* or *čhumbužan* versus *abaži* which can be used only in reference to the speaker's father), etc.<sup>4</sup> Korean has honorific substitutes for the pro-

<sup>1</sup> Russian words and titles of works are transliterated according to the system adopted in Slavic studies.

<sup>2</sup> Although there exists an enormous literature on this subject in Japanese, not much has been published in European languages. The author of these lines used G. Sansom, *An Historical Grammar of Japanese*, Oxford, At the Clarendon Press, 1960, which gives some information about honorific forms and their origin on pp. 76 ff., 163 ff.

<sup>3</sup> Sansom, *op. cit.*, p. 81.

<sup>4</sup> G.J. Ramstedt, *A Korean Grammar*, Helsinki, 1939, p. 36. The Korean forms are given in Ramstedt's transcription.

noun "you," such as *hjeŋ* "elder brother," *koŋ* "commonly known" or "duke" as opposed to *če* "younger brother" or *sisāŋ* "junior," etc. for "I."<sup>5</sup> There are also special polite verbal forms.<sup>6</sup>

Honorific speech is also known to the Mongols. Mongolian lacks special honorific prefixes, suffixes or other formative morphemes, but sometimes, to form an honorific form, the plural is used, e. g., Ordos *morin edžit* "the lord of horses" (=the Buddhist god *ḡajaŋk'irwā*, Sanskr. *Hayagrīva*), *gōrōsōn edžit* "the lord of wild animals,"<sup>7</sup> or in Written Mongolian *mōn edür širegetü qambo pandita nomči guōši čorji blam-a-tan degeji bolʒan ergügsen inu* "this is what on the same day the Abbot, the Khambo, Pandita, the National Preceptor, the Chorji Lama has presented as the most exquisite [items],"<sup>8</sup> *ručin-dugegeŋ-ten delger qangʒai takiba* "on the thirtieth, the Gegen offered sacrifices to [the mountain range] Delger Khangai,"<sup>9</sup> *gegeŋ-ten öber-ün šitügen ʒongqon-dur qadaʒ maŋdal bariju* "the Gegen, offering to his own object of veneration, the gonkhon,<sup>10</sup> a khadag and a maŋdala,"<sup>11</sup> etc.

Mongolian has also the plural imperative form in *-ʒtun* in Written Mongolian,<sup>12</sup> and the so-called benedictive in *-gtan* in Khalkha.<sup>13</sup> However, it does not have any special suffixes which are used exclusively to create honorific forms. Instead, Mongolian possesses a relatively large number of honorific substitutes for many words. These will be dealt with in this article.

The Mongolian honorific words and expressions refer to the body and its parts, the age, name, birth and death, dwellings, means of transportation, actions such as eating, sleeping, etc. They will be given in an alphabetic order.

1. Written Mongolian (Mo.) *aʒira*- "to walk, to move, come, appear." Kowalewski's dictionary (p. 124) explains this word as used only in reference to deities, superior persons and, particularly, to clergy. Thus, Kowalewski gives as examples *bodi ʒirüken-e aʒira*- "to go to Bodhi-maṇḍa" which he may have taken from a Buddha biography:

<sup>5</sup> Ramstedt, *op. cit.*, p. 47.

<sup>6</sup> Ramstedt, *op. cit.*, p. 76.

<sup>7</sup> A. Mostaert, C.I.C.M., *Textes oraux ordos*, Peiping, 1937, p. XXIII. The form *edžit* is the plural of *edžin* "lord." Mostaert's transcription is retained with the exception of the diacritical sign for velarization under *g*, *G*, *k*, *u*.

<sup>8</sup> A. Pozdněev, *Mongol'skaja xrestomatija dlja pervonačal'nago prepodavanija*, Sanktpeterburg, 1900, p. 26. The Written Mongolian forms are given in the usual transliteration.

<sup>9</sup> *Ibid.*

<sup>10</sup> Gonkhon is a small pavilion which is built outside (or even inside) a temple. This word is of Tibetan origin., cf. Tib. *mgon-khañ* "sanctum sanctorum." I owe this identification to Prof. T. Wylie, University of Washington.

<sup>11</sup> Khadag<Tibetan *kha-btags* "a silken scarf given as a sign of respect," *maṇḍala* "circle, disc" is Sanskrit. The example is from Pozdněev, *op. cit.*, p. 27.

<sup>12</sup> N. Poppe, *Grammar of Written Mongolian*, Wiesbaden, 1954, p. 89. It will be referred to as *Grammar*.

<sup>13</sup> N. Poppe, *Khalkha-mongolische Grammatik mit Bibliographie, Sprachproben und Glossar*, Wiesbaden, 1951, p. 77. It will be referred to as *Khalkha-mongolische Grammatik*.

cf. *bodī jīrūken-dūr ajīran soyurqabai* "he deigned to go to Bodhi-maṇḍa."<sup>14</sup> It occurs as *ajira-* in Khalkha (Kh.) where it means "to make a procession, to walk" and "to dwell," and is said to be an obsolete and polite expression.<sup>15</sup> This word is old and already attested in the *Secret History*, cf. there *ajira-* "to return home, to separate, to leave and return."<sup>16</sup> It corresponds to Turkic Uighur *adīr-* "to divide," Tuva *adīr-* "to take off, to separate, to dismember," Tatar *ayīr-* "to separate," etc., and is possibly to be compared also with Nanai (Goldi) *pājilavambori* "to separate" and *pāji* "separate" as Ramstedt believes.<sup>17</sup>

Mo. *ajira-* is the honorific substitute for *yabu-* "to go," *ire-* "to come," and is the equivalent of the Tibetan honorific expression *gshegs-pa* "to go."

2. Mo. *aldar* "fame, glory, celebrity" (Kowalewski, p. 89) occurs either alone or together with *nere* "name" as an honorific substitute for *nere* "name." Kowalewski gives the example *činu aldar ner-e-yi qola-ača sonosču* "hearing about your fame from far away" (l. c.). In Khalkha *aldar* is used as a polite word for "family name" or "last name," e.g., *tanī aldar xen be* "what is your last name?" (Luvsandэндэв, p. 30), but *aldar ner* is "name" and also "reputation, prestige, popularity, celebrity," cf. also *aldar nerig gutāx* "to lose prestige" or "to damage the reputation," and Tsevel's dictionary explains *aldar* as an honorific word for name, e.g., *ner aldrin asūv* "he asked about his name."<sup>18</sup> The same meaning is found in Ordos,<sup>19</sup> Buriat,<sup>20</sup> and Kalmuck.<sup>21</sup>

The function of *aldar nere* (or *nere aldar*) as an honorific expression for name is old because it occurs in the *Secret History*, cf. *aldar nere yeketei alan qo'a neretei . . . ökin*

<sup>14</sup> Cf. N. Poppe, *The Twelve Deeds of Buddha, A Mongolian Version of the Lalitavistara*, Wiesbaden, 1967, fol. 47r (p. 53). Kowalewski's translation "se diriger vers le centre de la sagesse" is incorrect because *bodī jīrūken*, lit. "the heart (or essence) of Bodhi" translates Skr. *bodhi-maṇḍa* which is the name of the place under the bodhi-tree on which the Bodhisattva, the future Buddha, became enlightened. Vide Poppe, *op. cit.*, p. 99. It is Tibetan *byan-chub-kyl sñin-po*, cf. E. Conze, *Materials for a Dictionary of the Prajñāpāramitā Literature*, Tokyo, 1967, p. 302.

<sup>15</sup> *Mongol'sko-russkij slovar'*, pod obščej redakciej A. Luvsandэндэв, Moskva, 1957, p. 26. The Khalkha forms are given in this article in a modified transliteration of Luvsandэндэв's transcription. The length of the vowels is rendered with a dash, e.g., *ā* instead of *aa*. Luvsandэндэв's *ə* is transliterated as *e*; *z* and *j* transliterate his *з* and *ж* respectively; *j* is used instead of *ñ*, and also renders the semi-vowel in *я* (= *ja*), *ю* (= *ju*), etc.

<sup>16</sup> E. Haenisch, *Wörterbuch zu Maṅḡol un niuca tobca'an (Yüan-ch'ao pi-shih)*, Geheime Geschichte der Mongolen, Wiesbaden, 1962, p. 4.

<sup>17</sup> Cf. T.I. Petrova, *Nanajsko-russkij slovar'*, Leningrad, 1960, p. 99. Compared by G.J. Ramstedt, "Ein anlautender stimmloser Labial in der mongolisch-türkischen Ursprache," *JSFOu* XXXII: 2 (1916), p. 3.

<sup>18</sup> *Mongol xelnij товč тајлбар тол'*, Zoxioson Ja. Ceval. Redaktorlasan X. Luvsanbaldan, Ulaanbaatar, 1966, p. 31.

<sup>19</sup> Mostaert, *Dictionnaire*, p. 14.

<sup>20</sup> *Burjat-mongol'sko-russkij slovar'*, Sostavil K.M. Čeremisov, pod redakciej C.B. Cydendambaeva, Moskva, 1951, p. 44.

<sup>21</sup> G.J. Ramstedt, *Kalmückisches Wörterbuch*, Helsinki, 1935, p. 6. It will be referred to as *Wörterbuch*.

"a maiden by the name of Alan Qo'a with a high reputation,"<sup>22</sup> *činggis qa'anure aldar sonosču* "hearing Chingis Khan's name."<sup>23</sup>

This expression occurs also in Tuva as a loan-word from Mongolian, cf. *at aldar* "fame, authority."<sup>24</sup>

3. Mo. *ayilad-* "to know, perceive, understand" and "to pay attention" (Kowalewski, p. 4) to which also the meaning "to be" is to be added. The so-called nomen actoris in *-γčī*<sup>25</sup> occurs as epitheton of Buddha, Tsoṅkhapa and other saints, cf. *qamuγ-i ayiladuγčī boγda congkaba* "the holy and omniscient Tsoṅkhapa" as part of the title of a Buddhist work of AD 1791.<sup>26</sup> In older literature, this verb frequently refers to Chingis Khan, e.g., in the poetical rendition of Arγasun Qorčī's words quoted in Saγang Sečen's historical work, cf. *qutuγ-tu ejen minu ayilad* "my holy lord should know!"<sup>27</sup> In newer literary works of Buriat authors, this verb is also used with reference to the Emperor of Russia, e.g., *edüge amuγulang-iyar ayiladuγčī qoyaduγar ilaγsangdar ni-qolayebiši qaγan* "Emperor Alexander II Nikolayevich who deigns [to dwell] in peace at the present time," where *edüge amuγulang-iyar ayiladuγčī* translates the Russian *nyne zdravstvujuschij*, in Yumsunov's chronicle of 1875.<sup>28</sup>

This verb occurs also in the colloquial Mongolian languages, cf. Kh. *ajldax* "to pronounce, to deign,"<sup>29</sup> cf. also the Ordos expressions *amur āldt'ši bānū* "how are you?" (lit. "do you dwell in peace?"), *namā t'anidži āldbū* "do you recognize me?" (lit. "do you deign to recognize me?"), etc.<sup>30</sup> In the last example *āld-* replaces the verb *bā-* "to be," and in ordinary speech the same sentence is *namā t'anidži bānū* "do you recognize me?" In other words, *āld-* has here the meaning "to deign to be," "to deign to exist." It is noteworthy that in Ordos it refers also to persons who are neither high lamas nor belong to nobility.

Mo. *ayilad-* and its colloquial equivalents are honorific substitutes for Mo. *mede-* "to know," *tani-* "to recognize," and even *a-* "to be."

4. Mo. *ayiladqa-*, Kh. *ajlatga-*, Ord. *āldḡa-* are causative stems of the Mo. verb *ayilad-* and its colloquial equivalents discussed *supra*. The suffix is Mo. *-qa/-qā-*, etc.<sup>31</sup>

<sup>22</sup> P. Pelliot, *Histoire Secrète des mongols*, Paris, 1949, p. 5, § 7.

<sup>23</sup> *Ibid.*, p. 93, § 238, p. 100, § 249.

<sup>24</sup> *Tuvinsko-russkij slovar'*, Pod redakciej A.A. Pal'mbaxa, Moskva, 1955, p. 71.

<sup>25</sup> Poppe, *Grammar*, p. 93.

<sup>26</sup> W. Heissig, *Die Pekinger lamaistischen Blockdrucke in mongolischer Sprache*, Wiesbaden, 1954, p. 1.

<sup>27</sup> J.R. Krueger, *Poetical Passages in the Erdeni-yin Tobči, A Mongolian Chronicle of the Year 1662* by Saγang Sečen, S'Gravenhage, 1961, p. 62.

<sup>28</sup> *Letopisi xorinskix burjat*, vyp. 1, *Xroniki Tugultur Toboeva i Vandana Jumsunova*, Tekst izdal N.N. Poppe, Moskva-Leningrd, 1935, p. 123.

<sup>29</sup> Luvsandэндэв, *op. cit.*, p. 27. The word concerned is defined as obsolete and belonging to the elevated style.

<sup>30</sup> A. Mostaert, C.I.C.M., *Dictionnaire ordos*, Peking, 1941, p. 39. It will be referred to as *Dictionnaire*. The transcription of the original has been retained here, with the exception of the diacritical mark < (under u, g, etc.) which has been dropped.

<sup>31</sup> Poppe, *Grammar*, p. 61.

The meanings are "to let know, to report, to speak to a superior." In Written Mongolian it refers to khans or princes and superior government officials, i.e., denotes speaking of an inferior to a superior. In newer language, various forms of this verb may even mean "with your permission, I shall say . . ." or "may I draw your attention to . . ." Therefore, it occurs frequently in letters in such expressions as *erxem tand amrig ajltgajā* "I wish your esteemed person all the best" (lit. "Let me report peace to esteemed you!"). This verb occurs also frequently in folklore, especially in the so-called Kh. *jöröl* "benedictions" and has the meaning "to wish something good," e.g., *idēnixēj dējig örgōj jörōlig ajltgajā* "I wish to say a benediction while presenting the exquisite part of my food!" (lit. "Let me report a benediction . . .").<sup>32</sup> It is also used in polite conversation, e.g., Ord. *bi t'andu āldxāsā* "I would tell you [if I may]," *bi dzakxā āldxajā* "I am going to take leave" (lit. "Let me respectfully get the permission to leave!"), *dzalalga āldxa-* "to invite" (lit. "to notify respectfully about the invitation"), etc.<sup>33</sup>

Mo. *ayiladqa-* and its colloquial correspondences are honorific substitutes for such verbs as Mo. *kele-* < *kelele-* "to speak," *ögüle-* id. and other *verba dicendi*.

5. Mo. *čilegerke-* "to fall ill," which Kowalewski (p. 2163) translates simply as "to be sick, diseased, to ail, to suffer," is used in Khalkha only as a polite or honorific word, cf. *čilērxe-*.<sup>34</sup> It is not a coincidence that in a Tsongol song written down by the author of these lines in the Selenga district of the Buriat Autonomous Soviet Republic the verb *čilērxe-* is used in reference to Lenin, cf.

*sesesērīj bagši uljānavi*

*čilērxēd baixañ xajrtā gēči*

"It is sad that the teacher of the USSR,

Ulyanov, is ailing."<sup>35</sup>

A dialectal Khalkha form is *čilūrxe-* which is found in a saga written down by the same author, cf. *xāñ āwa čilūrxej* "the kingly father is indisposed."<sup>36</sup> The verb *čilūrxe-* is formed with *-rxe-*<sup>37</sup> from *čilūr* which is found in Ordos *ts'ilūrt'i* "tired."<sup>38</sup> The verb *tšilērka-* "to be ill" occurs also in Kalmuck where it is used only when speaking about princes.<sup>39</sup>

The verb *čilegerke-* is formed with the suffix *-rke-/rqa-*<sup>40</sup> from *čilege* "unhealthy

<sup>32</sup> N. Poppe, *Mongolische Volksdichtung: Sprüche, Lieder, Märchen und Heldensagen, Khalkha-mongolische Texte mit Übersetzung und Anmerkungen*, Wiesbaden, 1955, p. 14. It will be referred to as *Mongolische Volksdichtung*.

<sup>33</sup> Mostaert, *Dictionnaire*, p. 39.

<sup>34</sup> Luvsandendev, *op. cit.*, p. 631.

<sup>35</sup> N.N. Poppe, *Jazyk i kolchoznaja poezija burjat-mongolov Selenginskogo ajmaka*, Leningrad, 1934, p. 84. The Tsongol dialect is close to Khalkha.

<sup>36</sup> Poppe, *Mongolische Volksdichtung*, p. 152.

<sup>37</sup> Poppe, *Khalkha-mongolische Grammatik*, p. 47.

<sup>38</sup> Mostaert, *Dictionnaire*, p. 704.

<sup>39</sup> Ramstedt, *Wörterbuch*, p. 440.

<sup>40</sup> Poppe, *Grammar*, p. 65.

condition, indisposition, ailment," a deverbal noun in *-ge/-γa* from *čile-* "to be ill, to be tired or exhausted." The primary stem *čile-* "to be exhausted" occurs in the *Secret History*.<sup>41</sup> It goes back to *\*čila-* which form occurs as an old borrowing from Mongolian in Altai and Telengit as *čila-* "to be tired,"<sup>42</sup> and the oldest form is *\*tila-* which is found in Tungus as *tila-* "to be exhausted, tired (on a travel)."<sup>43</sup> The development of *\*tila-* (a stem of back vowels) to *čile-* (a stem of front vowels) is not uncommon in Mongolian. It occurs in stems with *i < \*i* in the initial or in several syllables, e.g., Mo. *kilinče* < Middle Mongolian (MMo.) *qilinča* "sin" < Turk. Uighur, etc. *qilinč* "deed, action"; Mo. *nimgen* < *\*nimkēn* "thin" from *\*nim* < *\*nim* + diminutive suff. *-kēn*, cf. Kalm. *nimūn* "thin," Ordos *nimnūn* < *\*nimlayun* "thin," Mo. *nimlayun* "thickness"<sup>44</sup> = Turkic *yīmšaq/yumšaq* "soft"; Mo. *šinjile-* "to investigate" = Turkmen *sīnā-* "to examine"; Mo. *šili-* "to select, to chose," *šilideg* "exquisite," but *šilγa-* "to examine" = Tungus *sinma-* < *\*sīlma-* "to chose";<sup>45</sup> Mo. *giltügene-* "to sparkle, to be bright," *gilte* "splendour" but *giluγalja-* "to sparkle, to shine," etc.

6. Khalkha and Chakhar *dēšil-* "to rise, to move upwards" is also used as an honorific word for getting up in the morning or rising from sleep. It is used in reference to important persons and is synonymous with *bos-* "to get up, to rise" of the everyday colloquial language.<sup>46</sup> It occurs in Ordos as *dēšile-* "to rise, to get up from sleep" and belongs to honorific expressions.<sup>47</sup> Kalmuck has *dēkšl-* "to awaken, to get up (of princes)."<sup>48</sup> In Written Mongolian *degešile-* "to go upwards, to rise" corresponds. It is formed from *degešī*, Kh. *dēš* "up, upwards."

7. Mo. *jala-* means "to invite" but in honorific speech also "to bring," and in this case it is used with reference to sacred objects. Thus, Kowalewski (p. 2279) gives the meanings "to bring or carry in an image, a statue" and identifies the Mongolian word with Tibetan *'nren-pa* "to lead, call, invite." In Khalkha *zal-* corresponds. Tsevel explains it as "to call" and gives the examples *emč zalax* "to call a doctor," *erdemtnīg zalax* "to call a scientist." The other meaning is, according to him, "to take or to bring very important matters," e.g., *em zalax* "to take medicine," *ünerten zalax* "to use perfume."<sup>49</sup> In Ordos *ɔžala-* is a word of the elevated style. It means "to invite,

<sup>41</sup> Haenisch, *op. cit.*, p. 27.

<sup>42</sup> Radloff's dictionary, Vol. III, p. 2084.

<sup>43</sup> G.M. Vasilevič, *Ėvenkijsko-russkij slovar'*, Moskva, 1958, p. 410.

<sup>44</sup> F.W. Cleaves, "The Sino-Mongolian Inscription of 1335 in Memory of Chang Ying-Jui," *HJAS* 13 (1950), p. 114, note 80.

<sup>45</sup> Cf. N. Poppe, *Vergleichende Grammatik der altaischen Sprachen*, Teil I, *Vergleichende Lautlehre*, Wiesbaden, 1960, p. 151.

<sup>46</sup> Ceval, *op. cit.*, p. 232. The Chakhar form has been obtained from Mr. Yidamjab, University of Washington.

<sup>47</sup> Mostaert, *Dictionnaire*, p. 144.

<sup>48</sup> Ramstedt, *Wörterbuch*, p. 91.

<sup>49</sup> Ceval, *op. cit.*, p. 261.

to invite and bring someone; to bring; to procure (mostly objects of worship, such as a statue of a deity, an amulet, etc.)," and is also used as a substitute for the verb *ala-* "to kill."<sup>50</sup> Among examples given by Mostaert there are *gat'un džala-* "to marry" (lit. "to invite a lady"), *em džala-* "to look for a medicine," *nojondū kèrtn usu džala-* "to bring a prince water for washing" (lit. "to invite for the prince water of filth"), *gandžūr džala-* "to buy and bring a Kanjur (i.e., a complete set of Tripitaka)," etc. The verb *zala-* "to get or prescribe medicine" occurs also in Buriat, although it is regarded as obsolescent.<sup>51</sup>

In older Buriat literary works (in Written Mongolian) the verb *jala-* "to bring" is used when speaking about sacred objects or books, e.g., *urida ɣaɣar-ača jalaɣu asaraɣsan: terigüüši-yin yum-i jalaɣu* "bringing the first Yum<sup>52</sup> which had been brought from the former country."<sup>53</sup>

8. Mo. *jalara-* is "to become straight, to get a straight direction," but in honorific speech it is "to walk solemnly, to move, to travel," and is used in reference to Buddha, saints, high clergy, and other important persons. It occurs in Khalkha as *zala-* "to march solemnly, to deign to visit,"<sup>54</sup> and is explained by Tsevel as an honorific expression for coming, going, and dying.<sup>55</sup> The latter meaning has also been recorded by Haltod and Sagaster.<sup>56</sup> In Buriat, however, *zalar-* means only "to deign to visit" (said about important persons), "to make one's entry, to march solemnly."<sup>57</sup> The same meanings "to travel (princes and high clergy), to make one's triumphal entry, to pace" are also found in Kalmuck.<sup>58</sup>

The verb *jalara-* is formed with the suffix *-ra-* of *verba media*<sup>59</sup> from *jala-* "to make straight, to straighten, to steer a boat, to give a straight direction" (Kowalewski, p. 2279). This *jala-* may be the same as the one discussed under n°7, i.e., the meaning "to invite" may be a secondary one, namely, "to straighten out, to give a straight direction, to direct" > "to direct someone into the actor's house" > "to invite."

9. Mo. *ǰirɣa-* "to be happy" is, in honorific speech, "to set, to go down" in reference to the sun, or "to go to sleep, to go to bed" in reference to princes, high clergy, and other important persons. Only Lessing's dictionary gives these honorific meanings

<sup>50</sup> Mostaert, *Dictionnaire*, p. 181.

<sup>51</sup> Čeremisov, *op. cit.*, p. 262.

<sup>52</sup> *Yum* is *Prajñāpāramitā* and that part of the Kanjur which contains it.

<sup>53</sup> *Letopisť xorinskix burjat*, p. 74.

<sup>54</sup> Luvsandэндэв, *op. cit.*, p. 190.

<sup>55</sup> Cevel, *op. cit.*, p. 262.

<sup>56</sup> K. Sagaster und M.M. Haltod, "Über einige Ausdrücke für sterben im Mongolischen," *JSFOu* 65:1 (1964), p. 111. Most of the honorific expressions for dying have been discussed in their article. Therefore, the author will not include them in the present article.

<sup>57</sup> Čeremisov, *op. cit.*, p. 262.

<sup>58</sup> Ramstedt, *Wörterbuch*, p. 465.

<sup>59</sup> Poppe, *Grammar*, p. 64.



for Written Mongolian (p. 1059), but they are found in all available dictionaries of spoken Mongolian languages, e.g., Khalkha, cf. *nar jargav* "the sun has set,"<sup>60</sup> *zul jargav* "the lamp (of the kind which burn in front of holy images) has gone out,"<sup>61</sup> and is used as an honorific term for sleeping with regard to persons "who should be esteemed."<sup>62</sup> In Ordos this verb means "to set" (sun, moon, stars) and, in honorific speech, "to go to bed," e.g., *nojon džirgaxa-mān* "the prince is going to bed."<sup>63</sup> These meanings are not given in Čeremisov's Buriat dictionary, but in Kalmuck there occur expressions as *nojñ džirγvdž* "the prince went to bed," *narñ džirγvdž-ēn* "the sun is setting."<sup>64</sup>

10. Mo. *joγoγla* "to take in food, to eat," is used only in honorific speech, although Kowalewski does not say anything about its use. It is a verb in *-la*<sup>65</sup> formed from *joγoγ* "amusement, pleasure, promenade, food" (Kowalewski, p. 2375). However, the Khalkha dictionaries give *žōglo* only as an honorific term for eating.<sup>66</sup> In Khalkha folklore clauses as *xāñ bosoγ caigāñ žōglo* "khan, get up and take in your tea!"<sup>67</sup> occur often. In Ordos its meaning is wider, and there this verb denotes, in honorific speech, enjoying anything, namely eating, drinking, enjoying or using something, approving or disapproving of something, e.g., *džōg džōglo* "to have a meal," *ariχi džōglo* "to drink alcohol," *t'amiχi džōglo* "to smoke," *malaga džōglo* "to put on a hat," *nabdžā džōglo* "to put on his garments," *gut'ul džōglo* "to put on boots," *sewūr džōglo* "to fan oneself with a fan," *mori džōglo* "to mount a horse," *k'ilij džōglo* "to get angry," *t'šilē džōglo* "to fall ill."<sup>68</sup> In Buriat it means the same as Russian *kušat*, i.e., it is a word for eating and is used only with reference to other persons, but never oneself.<sup>69</sup> It also means, in Buriat, "to taste, to eat a little bit" (as an honorific term) but is also used ironically about someone who gorges on food ("he is taking in").<sup>70</sup> This verb occurs as *džōγl-* "to eat" (said of princes) in Kalmuck.<sup>71</sup>

The Mo. noun *joγoγ* "amusement, food" has been compared by Ramstedt (*l.c.*) with Turkic (Baraba) *yuaq-la-n-* "to amuse oneself" and Kazakh *juba-t-* "to console." Indeed, Mo. *joγoγ* goes back to *\*juṛāk* and is also to be compared with Mo. *juṛā*, Kh. *zugā*, Bur. *zugā* "entertainment, amusement."<sup>72</sup>

<sup>60</sup> Luvsandэндэв, *op. cit.*, p. 177.

<sup>61</sup> Ceval, *op. cit.*, p. 242.

<sup>62</sup> *xündetgevel žoxix xünl untax*, Ceval, *l.c.*

<sup>63</sup> Mostaert, *Dictionnaire*, p. 202.

<sup>64</sup> Ramstedt, *Wörterbuch*, p. 112.

<sup>65</sup> Poppe, *Grammar*, p. 65.

<sup>66</sup> Luvsandэндэв, *op. cit.*, p. 198; Ceval, *op. cit.*, p. 274.

<sup>67</sup> Poppe, *Mongolische Volksdichtung*, p. 86.

<sup>68</sup> Mostaert, *Dictionnaire*, p. 207.

<sup>69</sup> In Russian *ja em* "I am eating," but *počemu vy ničego ne kušate* "why do not you eat anything?"

<sup>70</sup> Čeremisov, *op. cit.*, p. 271.

<sup>71</sup> Ramstedt, *Wörterbuch*, p. 477.

<sup>72</sup> N. Poppe, "The Groups *\*uṛa* and *\*üge* in Mongol Languages," *St. Orient. ed. Soc. Or. Fen.*, 14:8 (1950), p. 9.

11. Mo. *kölgele*- "to mount a horse" (Kowalewski, p. 2069) is an honorific expression in Khalkha where *xölöglö*- means "to ride"<sup>73</sup> and refers to important persons. It is also an honorific word in Ordos, e.g., *uilen dēgūr kölgölödök nāma šidet'en* "the eight Perfect Ones who ride over the clouds."<sup>74</sup> Although Čeremisov's Buriat dictionary does not list this verb, it occurs in Buriat, e.g., in Shamanist incantations, cf. *došxin zērdiji xulgelheñ ezen xihāñ ulāñ tengri* "Lord Xihāñ Ulāñ Tengri who has mounted an untamed chestnut horse,"<sup>75</sup> etc. The verb *kölg-* "to ride, to transport" occurs also in Kalmuck.<sup>76</sup>

Mo. *kölgele*- and its colloquial forms are derived, with the suffix *-le/-la-*,<sup>77</sup> from Mo. *kölgen* "mount, any means of transportation" (Kowalewski, p. 2608) and, in particular, "vehicle." It occurs in Buddhist literature as a translation of Skr. *yāna*, e.g., *yeke kölgēn sudur*=Skr. *mahāyānasūtra*. Its equivalent in Khalkha is *xölög* which is an honorific expression for the horse of a person deserving special respect.<sup>78</sup> It occurs in Khalkha in epic sagas and Shamanist incantations, e.g., *čusañ zērde xüreñ moriñ xölgötē* "he who has a blood-red chestnut-colored brownish horse."<sup>79</sup> This honorific expression for mount occurs also in Buriat, e.g., *xurdañ sañxir xulgetei* "the one who has a fast light-colored horse."<sup>80</sup> Ordos has *k'ölgö* "mount" (in honorific speech), "boat" (in common speech),<sup>81</sup> and in Kalmuck *kölgn* means "mount, vehicle, means of transportation," cf. *kölgēr mörıldž* "[the prince] went by horse."<sup>82</sup>

This word can be compared with Kirghiz and Kazakh *kölik* "beast of draught, horse of good breed."<sup>83</sup> The word under discussion is old in Mongolian and occurs in the *Secret History* as *kölgen*, cf. *kölge oro'uludqun* "put the beast of draught to [the cart]!",<sup>84</sup> although there it is not an honorific expression. It is a noun formed with the suffix *-gen* from the verb *köl-* "to put (a horse) to (a cart)" which also occurs in the *Secret History*.<sup>85</sup> The verb *köl-* is to be compared with Tungus *kul-*<sup>86</sup> < Yakut *köliy-* < \**köl-ü-y-* "to put to" and with Ancient Turkic *köl-* "to put an ox to a cart."<sup>87</sup> In Mongolian *köl-* may be an old borrowing from Turkic.

<sup>73</sup> Ceval, *op. cit.*, p. 709.

<sup>74</sup> Mostaert, *Dictionnaire*, p. 426.

<sup>75</sup> N.N. Poppe, *Burjat-mongol'skij fol'klornyj i dialektologičeskij sbornik*, Moskva-Leningrad, 1936, p. 23. It will be referred to as *Sbornik*.

<sup>76</sup> Ramstedt, *Wörterbuch*, p. 238.

<sup>77</sup> Poppe, *Grammar*, p. 65.

<sup>78</sup> Ceval, *op. cit.*, p. 709.

<sup>79</sup> Poppe, *Mongolische Volksdichtung*, p. 266.

<sup>80</sup> Poppe, *Sbornik*, p. 23.

<sup>81</sup> Mostaert, *Dictionnaire*, p. 426.

<sup>82</sup> Ramstedt, *Wörterbuch*, p. 238.

<sup>83</sup> *Ibid.*

<sup>84</sup> Pelliot, *op. cit.*, p. 98.

<sup>85</sup> Haenisch, *op. cit.*, p. 103.

<sup>86</sup> Vasilevič, *op. cit.*, p. 218.

<sup>87</sup> S.E. Malov, *Pamjatniki drevnetjurkskoj pis'mennosti*, Moskva-Leningrad, 1951, p. 395.

12. Mo. *laṣṣin* or *lagšan* “body” <Skr. *lakṣana* “mark” and especially the characteristic marks of a superior person (a cakravartin or Buddha), of which there are standardly 32.”<sup>88</sup> In Written Mongolian, this word is used in reference to Buddha, saints, and great kings. Thus, Saṅg Sečen used the word *laṣṣan* with regard to Sroṅ-bzan sGambo’s son,<sup>89</sup> and later, the Buriat writer Vandan Yumsunov spoke of the newborn Temujin as having been *laṣṣin belges tegülder* “perfect in superior bodily marks and features.”<sup>90</sup>

In Khalkha *lagšin* is an honorific word for body, e.g., *lagšin tuṅgalag uu* “are you all right?” (lit. “is the body healthy?”), *lagšin čilür* “ill” (lit. “the body is ill”).<sup>91</sup> It is to be noted that *tuṅgalag* and *čilür* are also honorific words: *tuṅgalag* is lit. “transparent” but also “clear, in good health.” As for *čilür* it has been discussed *supra* under n° 5. The same usage is found in Ordos, e.g., *beje lagšan t’uṅgalak sãẽ bãnũ* “are you all right?”, *t’ani lagšan urgulbžidu sãn äldt’ši bãwũ* “have you been in good health all this time?”<sup>92</sup>

13. Mo. *mandu-* “to rise” refers only to sun, and other celestial bodies, and in modern language, to revolutions and new eras, i.e., “to arise.” Its optative *mandutuṛai* or *manduqu boltuṛai* means “long live!”, e.g., *mongṛol arad ulus manduqu boltuṛai* “long live the Mongolian People’s Nation!” The same usage is characteristic of Khalkha and Buriat. In Ordos, however, this verb has, side by side with the same meanings, also the meaning “to be born” which occurs in honorific speech and refers to the birth of children of princes, e.g., *nojonãs awaxã mandudži gart’ši gene* “they say a daughter has been born to the prince.”<sup>93</sup>

The verb *mandu-* “to rise” already occurs in the *Yüan-ch’ao pi-shih* and means “to develop.” In the *Hua-I ih-yü* only the causative stem *mandu’ul-* “to increase, to spread” occurs.<sup>94</sup>

14. Mo. *mendüle-* “to be born” is used in reference to saints and important persons. Kowalewski gives the example *bey-e mendüleküi* “the birth of an illustrious person,” its Tibetan equivalent being *sku ltam-pa* or *’khrun-ba* “to be born” as an honorific expression (Kowalewski, p. 2005). In Written Mongolian it is used only with regard to Buddha, Bodhisattvas, saints, high lamas, and kings. Thus, it is found in the

<sup>88</sup> F. Edgerton, *Buddhist Hybrid Sanskrit Grammar and Dictionary*, Vol. II: *Dictionary*, New Haven, Yale University Press, 1953, p. 458.

<sup>89</sup> I.J. Schmidt, *Geschichte der Ostmongolen und ihres Fürstenhauses verfasst von Ssanang Ssetzen Chungtaidschi der Ordus*, Leipzig, 1829, p. 29.

<sup>90</sup> *Letopisi xorinskix burjat*, p. 56.

<sup>91</sup> Ceval, *op. cit.*, p. 319.

<sup>92</sup> Mostaert, *Dictionnaire*, p. 443.

<sup>93</sup> Mostaert, *op. cit.*, p. 452.

<sup>94</sup> M. Lewicki, *La langue mongole des transcriptions chinoises du XIV-e siècle, Le Houa-yi yi-yu de 1389, II, Vocabulaire-index* Wrocław, 1959, p. 59.

historical work by Vandan Yumsunov of 1875 in the clause *kristoos burqan-u iudii-yi pibliyem kemekü balıasun-a kümün-ü bey-e oluju müngdölegsen-eçe qoyışida* 1875 *duyar on-u diqabri*<sup>95</sup> "December 1875 after God Christ's birth in human body in the city called Bethlehem of Judaea." Likewise, in the historical work *Bolur Erike* of 1775 Buddha's birth is referred to as *ilaju tegüs nögčigsen burqan mendölegsen-eçe* "after the birth of the Victorious Lord Buddha,"<sup>96</sup> and in the chronicle *Bolur Toli* of 1834-37 the same verb is used with regard to Chingis Khan's birth, cf. *rayiqamsır tegüs nigen köbegün mendülebei* "an admirable perfect male child was born."<sup>97</sup>

This verb occurs also in Khalkha, and the dictionary gives as an example the phrase *süxbätäriṅ mendelsni oḡ temdeglex* "to mark the anniversary of Sukhebator's birth."<sup>98</sup> It is also found in Buriat as *mündel-* "to be born (honorific),"<sup>99</sup> but in Ordos<sup>100</sup> and Kalmuck<sup>101</sup> it simply means "to give birth to a child," and is not regarded as an honorific expression.

The verb *mendüle-* is formed with the suffix *-le-* of verbs from nouns<sup>102</sup> from *mendü* "healthy" the etymology of which is obscure. There are no other words, either Mongolian, Turkic or Tungus, with which it could be connected etymologically.

15. Mo. *morila-* is explained as "to ride a horse, to travel on horse back, to set off on a horse" (Kowalewski, p. 2048). Lessing's dictionary correctly adds that the meaning "to ride a horse" is obsolete and that the meaning "to leave or set out for" occurs only as an honorific expression. The converbum imperfecti of this verb, together with other verbs, means "please" = French *s'il vous plaît* = German *bitte*. Lessing's dictionary gives also the meaning "to die" in honorific speech. Indeed, the meanings "to mount a horse" and "to set off" occur in the *Yüan-ch'ao pi-shih*,<sup>103</sup> but in the modern colloquial languages *morila-* is only an honorific word both for setting off, going on a travel, and for dying.<sup>104</sup>

In Khalkha *moril-* means "to deign to come, to come and be welcome"<sup>105</sup> and, in honorific speech, "to walk, to go."<sup>106</sup> In Buriat it has the meanings "to deign" and, in honorific speech, "to go."<sup>107</sup> Ordos has the meanings "to part, to travel, to go, to

<sup>95</sup> *Letopisi xorinskix burjat*, p. 171-72. Here the verb occurs in the Buriat form *mündüle-*.

<sup>96</sup> A. Mostaert, C.I.C.M., *Bolur Erike, Mongolian Chronicle by Rasipunsur*, Part I, Cambridge, Massachusetts, 1959, p. 60.

<sup>97</sup> W. Heissig, *Bolur Toli, "Spiegel aus Bergkristall" von Jimbadorji (1834-1837)*, Kopenhagen, 1962, fol. 21r.

<sup>98</sup> Ceval, *op. cit.*, p. 356.

<sup>99</sup> Čeremisov, *op. cit.*, p. 324.

<sup>100</sup> Mostaert, *Dictionnaire*, p. 469.

<sup>101</sup> Ramstedt, *Wörterbuch*, p. 261.

<sup>102</sup> Poppe, *Grammar*, p. 65.

<sup>103</sup> Haenisch, *op. cit.*, p. 111.

<sup>104</sup> For *morila-* "to die" see Sagaster and Haltod, *op. cit.*, p. 112.

<sup>105</sup> Luvsandэндэв, *op. cit.*, p. 242.

<sup>106</sup> Ceval, *op. cit.*, p. 341.

<sup>107</sup> Čeremisov, *op. cit.*, p. 317.

come" which occur only in honorific speech. Besides, the verb in question means also "to die" and is regarded as a respectful expression.<sup>108</sup> Ramstedt's translation of Kalmuck *mōrl-* as "to ride a horse, to travel"<sup>109</sup> raises doubts. It was probably taken from Pozdněev's dictionary of the Written Oirat language,<sup>110</sup> whereas Zwick's dictionary gives the correct meaning "the riding of a prince."<sup>111</sup>

The following examples will illustrate the usage of the verb *morila-*: Kh. *ta dēšē moril* "please move to the honor place!";<sup>112</sup> Ord. *sāē morilo* "bon voyage!"; *gert'e morilo* "would you please enter the yurt!";<sup>113</sup> Buriat *xojmorto morilit* "please sit down in the honor place!."<sup>114</sup>

This verb is also used with other verbs, to achieve greater politeness of speech. In such constructions the verb *morila-* appears in the form of a converb, namely modal or imperfect, which acts as an adverbial complement of the other verb, e.g., Kh. *xojmor morilj sūgtuŋ* "please move into the honor place!" (lit. "please sit down in the honor place!"), *moriloŋ ornū* "welcome!" (lit. "will you graciously enter?");<sup>115</sup> Ord. *sāē morilo-dži sāt'adži bānū* "how are you?" (said to someone who is at his home), *morilodž ire-* "to come" (lit. "to come graciously");<sup>116</sup> in Buriat *morilžo hūgti* "please sit down!," *xānahā xāna xūreter morilžo jabanabta* "whence and where do you deign to travel?";<sup>117</sup> In such combinations the verb *morilo-* loses its original meaning, and its converb (modal or imperfect) simply means "please . . ." or "would you please . . .," etc.

The verb *morila-* is formed from *morin* "horse" which might be related to Korean *mgil*, North Korean *mgr* or *mor* "horse."<sup>118</sup>

16. Mo. *mutur* "hand" (of saints and royalty) and "seal, emblem, symbol" (Kowalewski, p. 2041). It is of Sanskrit origin where it is *mudrā* and means "seal."<sup>119</sup> In Lessing's dictionary this word is explained in detail as any of the different gestures used in religious ceremonies, such as prayers, blessing, making an offering, reciting of dharanis or mantras. It means also "hand" (referring to deities or dignitaries) and "seal, imprint of a seal, emblem, symbol."<sup>120</sup> In honorific speech, *mutur* means "hand." Thus, when describing the arrival at the river Ulaŋan Mören of the holy lama *bSod-nams rGya-mtso* who stretched out his hand, whereupon the water receded, Saŋang

<sup>108</sup> Mostaert, *Dictionnaire*, p. 467.

<sup>109</sup> Ramstedt, *Wörterbuch*, p. 266.

<sup>110</sup> A. Pozdněev, *Kalmycko-russkij slovar'*, S. Peterburg, 1911, p. 237.

<sup>111</sup> H.A. Zwick, *Handbuch der westmongolischen Sprache*, p. 268.

<sup>112</sup> Ceval, *l.c.*

<sup>113</sup> Mostaert, *l.c.*

<sup>114</sup> Čeremisov, *l.c.*

<sup>115</sup> Luvsandэндэв, *op. cit.*, p. 242.

<sup>116</sup> Mostaert, *l.c.*

<sup>117</sup> Čeremisov, *l.c.*

<sup>118</sup> Ramstedt, *Studies in Korean Etymology*, p. 138.

<sup>119</sup> Conze, *op. cit.*, p. 323.

<sup>120</sup> F. Lessing, General Editor, *Mongolian-English Dictionary*, Berkeley and Los Angeles, 1960, p. 553.

Sečen uses the expression *tere usun-a januṣči mutur-i jayidbasu* "when he stretched out his threatening hand in the direction of that water."<sup>121</sup> Likewise, when mentioning the confirmation by the Emperor Alexander II of the newly elected head of the Lamaist Church in the Buriat country, Vandan Yumsunov uses the expression *tede yeke degedii ejen imperator qoyadur ar ilaṣsangdor niqolayiviši-yin öber-ün mutur-iyar . . . örsiyegdegsen garamoti-bar . . . batuhuṣdayad* "having been confirmed by a rescript<sup>122</sup> granted by His Majesty, the Lord and Emperor, Alexander II Nikolayevich, by his own hand . . ."<sup>123</sup>

The word *mutur* occurs also in Khalkha. There it is *mutar* "hand" (honorific),<sup>124</sup> in Ordos *mut'ur/mot'or* "hand" (honorific),<sup>125</sup> in Buriat *motor* "right hand" (in honorific speech and poetry),<sup>126</sup> and in Kalmuck *mutṛ/motr* "the blessing hand," e.g., *mutrān tāwı-* "to put his hand (upon someone when blessing)" and also "to put his signature" (said of important dignitaries).<sup>127</sup>

It is noteworthy that, on the other hand, the Ordos verb *mut'urda-/mot'ordo-* which is formed with the suff. *-da*<sup>128</sup> from *mut'ur/mot'or* means "to lay one's hand on something with the intention to steal it, to steal for fun (as a practical joke)," e.g., *tere awagā k'uni jumāg mut'urdaḍzi abt'ši* "that gentleman has laid his hand on something that belongs to other people."<sup>129</sup> Here the honorific word *mutur* is the primary stem of a verb which is by no means honorific. The stem *mutur* has acquired an ironical meaning: "he lays his [precious or kingly, princely, etc.] hand on other people's property."

17. Mo. *noyirsa-* "to take a nap, to sleep" (Kowalewski, p. 675) is Kh. *nojrs-*, a polite expression for sleeping,<sup>130</sup> more or less equivalent to Russian *počivayt'sya*. When asking about whether someone has slept well, a Khalkha says *ta saṣṣṣ nojrsowū?* The same is found in Buriat,<sup>131</sup> Ordos,<sup>132</sup> and Kalmuck.<sup>133</sup>

The verb *noyirsa-* is formed with the suffix *-sa*<sup>134</sup> from Mo. *noyir* "sleep" and is less honorific, if one may say so, than Mo. *jırṣa-*, Kh. *jarga-* (vide n° 9).

<sup>121</sup> Schmidt, *op. cit.*, p. 226. The form *janidbasu* is a misprint. The xylograph has *jayidbasu*, cf. E. Haenisch, *Der Kienlung-Druck des mongolischen Geschichtswerkes Erdeni-yin tobci von Saṣang Secen*, Wiesbaden, 1959, p. 200.

<sup>122</sup> The word *garamoti* is Russian *gramota* "rescript, edict" from Greek *γράμματτα*.

<sup>123</sup> *Letopisi xorinskix burjat*, p. 73. "By his own hand" is the exact equivalent of Russian *sobstven-noručnyj*.

<sup>124</sup> Covel, *op. cit.*, p. 351.

<sup>125</sup> Mostaert, *op. cit.*, p. 477.

<sup>126</sup> Čeremisov, *op. cit.*, p. 318.

<sup>127</sup> Ramstedt, *Wörterbuch*, pp. 265, 269.

<sup>128</sup> Poppe, *Grammar*, p. 64.

<sup>129</sup> Mostaert, *l.c.*

<sup>130</sup> Luvsandendev, *op. cit.*, p. 270.

<sup>131</sup> Čeremisov, *op. cit.*, p. 346.

<sup>132</sup> Mostaert, *Dictionnaire*, p. 497.

<sup>133</sup> Ramstedt, *Wörterbuch*, p. 280.

<sup>134</sup> G.J. Ramstedt, "Zur Verbstammbildungslehre der mongolisch-türkischen Sprachen," *JSFOu*

18. Mo. *ōči-* "to speak, to answer" (Kowalewski, p. 541) is used only when Buddha, a saint, a high lama, or a prince is spoken to. Although Kowalewski does not explain it, he gives as his only example *qayan-dur eyin ōčigdeküi* "one should speak thus to the king." This verb occurs in the *Secret History*.<sup>135</sup> Haenisch indicates 13 passages in which this verb occurs and, as far as these are concerned, the verb *ōči-* always denotes speaking to a superior, e.g., *altan qana ōčisü bi* "I shall report to Altan Qan" (§ 134), *činggis qa'ana ōči'esü* "when he spoke to Chingis Khan" (§ 156), *qahanu soyurqal medetügei ke'en ōči'jü'ü* "[Shigi Qutuqu] spoke: 'May the Emperor's grace know [about this]!'" (§ 203), *ōči'jü ile'jü'üi* "[The Idiqtu] sent [to Chingis Khan], speaking (i.e., sending a message) devoutly" (§ 238), *ke'en ōčibe* "[Burqan of the Tangut] spoke [to Chingis Khan]" (§ 249), etc.

The verb *ōči-* occurs in Khalkha but is regarded as a bookish word meaning "to answer respectfully."<sup>136</sup> In Ordos *ōtš'ō-* means "to recite in a high voice a prayer during sacrifices, to make a deposition in a court of law."<sup>137</sup> In Kalmuck there is *ōtš'i-* "to answer accusations, to defend oneself, to declare."<sup>138</sup>

The verb *ōči-* is to be compared with Turkic forms such as Uighur *ötüg* "request, prayer," *ötün-* "to implore, to ask,"<sup>139</sup> a medium verb in *-n*.<sup>140</sup> from \**ōt-* in *ōt-i-g* "prayer." The Mongolian forms cannot be regarded as borrowings from Turkic because they preserve the vowel of the second syllable and represent the primary stem \**ōti-* which is not found in Turkic.

19. Mo. *ōgede bol-*, lit. "to become upwards" (*ōgede* "upwards," *bol-* "to become") is an honorific expression for "to go, walk, come, appear" in reference to deities and important persons (Kowalewski, p. 558), e.g., in Sarang Sečen's chronicle *ejen ōgede bolur-a edüi ajuṛu* "the lord (i.e., Chingis Khan) had not yet got up,"<sup>141</sup> *dalai lam-a nilum tala-da ōgede bolbai* "the Dalai Lama went to Nilum Tala,"<sup>142</sup> etc.

In Khalkha this is a polite expression for "to rise, to get up; to improve,"<sup>143</sup> and "to die."<sup>144</sup> Kalmuck has "to improve, to become better," in elevated speech "to go" (i.e., the same as *od-* in ordinary speech), and "to die."<sup>145</sup> In Ordos *ōdō bol-* is only "to die" and is used in reference to old persons.<sup>146</sup>

XXVIII:3 (1912), p. 74.

<sup>135</sup> Haenisch, *op. cit.*, p. 121.

<sup>136</sup> Luvsandэндэв, *op. cit.*, p. 333.

<sup>137</sup> Mostaert, *Dictionnaire*, p. 542.

<sup>138</sup> Ramstedt, *Wörterbuch*, p. 302.

<sup>139</sup> Malov, *op. cit.*, p. 408.

<sup>140</sup> A. von Gabain, *Altürkische Grammatik*, 2. Verbesserte Auflage, Leipzig, 1950, p. 81.

<sup>141</sup> Schmidt, *op. cit.*, p. 78.

<sup>142</sup> Schmidt, *op. cit.*, p. 236.

<sup>143</sup> Luvsandэндэв, *op. cit.*, p. 326.

<sup>144</sup> Cevel, *op. cit.*, p. 441.

<sup>145</sup> Ramstedt, *Wörterbuch*, p. 303.

<sup>146</sup> Mostaert, *Dictionnaire*, p. 527.

20. Mo. *ölmei* "the front part of the foot, metatarsus" (Kowalewski, p. 533) has become an honorific word for foot at an early date, and with this meaning it is used in reference to the feet of Buddha and saints. In Khalkha *ölmi* is "front part of the sole of the foot; the front part of the sole of a boot," and in honorific speech "foot."<sup>147</sup> In Ordos *ölmi* is only an honorific word for foot or feet,<sup>148</sup> whereas in Kalmuck it is "the upper part of the foot, metatarsus" and in honorific speech "foot."<sup>149</sup> In some Buriat dialects the form *ül'mi* "metatarsus, the front part of the boots" occurs.<sup>150</sup>

There are in Mongolian many more polite and honorific expressions but thorough discussion of all of them would require much more space than what is available to the author. Therefore, at the end of the present article an additional brief list of Khalkha words without lengthy discussions is given.

*barā bol-* "to be present" (=to be in the presence of a king or another important person),

*barālxā-* "to meet an important person, to have an audience with an important person,"

*gergi* "wife," a polite expression, more or less="madame" or German "Frau Gemahlin,"

*mōšō-* (or *mišē-*) "smile, laugh" (of Buddha, saints, etc.),

*owōdoj* "a special hat of lamas which is worn during services," in honorific speech used as an expression for any kind of head gear of lamas and princes,

*örgō* "palace," in honorific speech "any house, dwelling,"

*örgöl-* "to marry," formed from *örgō* (like *gerle-* "to marry" from *ger* "yurt, house, home"),

*öršöldō bagtā-* "to excuse, to forgive," lit. "to put into one's compassion,"

*sāta-* "to dwell, to be, to stay in a place," e.g., *ta tajwan sātaj bajnū* "is everything all right?" (lit. "do you dwell in peace?"),

*sonor* "hearing" in the expression *altaṅ sonor xürge-* "to announce, to inform," lit. "to bring to the golden hearing,"

*sonordül-* "to inform, to tell," lit. "to make hear,"

*süder* "shadow," in honorific speech "age," usually as *nas süder* "age" ("age and shadow"), cf. *öndör süder* "high age, old age" (lit. "high shadow"),

*tolil-* "to look in the mirror," in honorific speech "to pay attention, to take notice of, to perceive,"

*tolido-* "to look in the mirror," in honorific speech "to take notice," cf. *namajg tolidoj xajrla* "please give me attention!," also *gegēndē tolido-* "to take notice of," lit.

<sup>147</sup> Cevel, *op. cit.*, p. 435.

<sup>148</sup> Mostaert, *Dictionnaire*, p. 351.

<sup>149</sup> Ramstedt, *Wörterbuch*, p. 295.

<sup>150</sup> Čeremisov, *op. cit.*, p. 506.



“to look in the mirror in one’s brightness,”

*tungā*- “to consider,” e.g., *gegēndē tungā*- “to take notice,” lit. “to consider in one’s brightness,”

*tungalag* “transparent, clear (opposite of muddy), clean,” in honorific speech “well, good, healthy,” e.g., *tungalag sajxaṇ morilj bajnū* “are you in good health?”.

In conclusion, the author of these lines wishes to add that the present article is devoted to Professor Shirō Hattori and is intended to wish him good health and further success in his scholarly activities. These good wishes can be expressed in Khalkha in the following manner:

*Erxem Xattori Bagš, Tanā oloṇ irex jil dotor ürgeljid lagšij tungalag, sanā setgel tajvaṇ sātaṇ, aṇildā amjilt olj, alivā xüsesen zorisondō xürex bögöd ene zaijānd am saixan jargaxiṇ jörölög aṇlatgaṇ josloṇ örgöv.*

UNIVERSITY OF WASHINGTON, U. S. A.

# A PROPOS D'UNE PIÈCE DE CHANCELLERIE BOURIATE DU XIX SIÈCLE

RINTCHEN

Parmi les matériaux scientifiques du M. le Prof. Dr. Žamtsarano, l'un des fondateurs de l'Académie des Lettres Mongole en 1921—*Mongγol Ulus-un Sudur bičig-iin Kūriye-leng*—蒙古人民国立文学院, j'ai trouvé un document en langue et écriture mongole, provenant de la chancellerie bouriate de Khorï et concernant une inscription rupestre à Khoutouk oula en Transbaïkalie.

Le document en question est écrit par la plume et par l'encre russe sur le papier européen du xix siècle et représente un rapport de la chancellerie bouriate de la Douma de Steppe de Khorï à son président et le chef des clans bouriates de Khorï un certain Rintchin dordji Dimbeloun sur la réception d'une copie de l'inscription rupestre de Khoutouk oula demandée de la part du ministre de Cabinet des propriétés du Tsar.

L'inscription restait pendant plus d'une centaine d'ans tout inconnue aux orientalistes et nous ne pouvons en juger que par la copie faite plus ou moins soigneusement par un moine anonyme bouriate du xix siècle suivant l'ordre de l'abbé du monastère bouddhique à Anâ\*, qui sans doute, lui-même aussi exécutait l'ordre du taïcha Dimbeloun.

Comme on peut voir sur la reproduction photographique de la copie d'inscription annexée à la lettre missive de la Douma au taïcha Dimbeloun, elle avait douze lignes du texte en écriture verticale, probablement ouïgoure ou mongole, divisée en deux parties, contenant chacune six lignes.

Il est très possible que l'inscription était écrite par l'encre de Chine, comme la plupart d'inscriptions rupestres turques, ouïgoures ou mongoles trouvées en Mongolie du Nord, voisinée à la Transbaïkalie.

La partie supérieure du texte est la plus effacée, de sorte que le copiste omettait des caractères illisibles. A la tête de la sixième ligne on voit une tamga turque ou ouïgoure qui ressemble beaucoup à la lettre tibétaine *ča*.

Chacune des six lignes de la partie inférieure de l'inscription contient quatre mots. On peut lire sur la troisième ligne: *sir . . . γur tutuq nar* ou *lar*. Le deuxième mot de la cinquième ligne est *qung* ou *qong*. Mais sans examiner au terrain, il est presque impossible de déterminer la langue de l'inscription de Khoutouk oula. Et nous espérons que

---

\* Voir *Four Mongolian Historical Records* by Rinchen, International Academy of Indian Culture, New Delhi, India, 1959, pp. 137, 139, 164.

cette communication très brève aide aux philologues et aux archéologues bouriates de retrouver l'inscription rupestre de Khoutouk oula et de la déchiffrer.

Quant à la lettre missive à qui cette copie d'inscription fut annexée, elle nous donne un spécimen bien intéressant de la langue des chancelleries bouriates du xix siècle qui même à ce temps était déjà lardée par des barbarismes sous l'influence de la langue officielle de l'administration russe de Sibérie.

Nous trouvons dans cette petite pièce de chancellerie bouriate bien de calques des termes et des titres officiels russes qui étaient à son temps inévitables pour la langue bouriate et l'enrichissaient des idées nouvelles. Nous pouvons considérer ces néologismes comme des faits positifs et progressifs pour la langue bouriate.

Dans la lettre en question il y a des calques bouriates suivantes :

*Tede aqui yeke degedü ejen*, qui correspond au titre d'empereur en russe : *Yego Velitchestvo*—Sa Majesté ;

*Öndür erkim töröltü*, qui conforme au titre russe *Vache Vysokoblagorodie*—Votre Haute Noblesse, usée pour honorer des fonctionnaires des 6e, 7e et 8e classes ;

*kürgelte*—calque du nom russe *donezenie*—rapport, compte-rendu ;

*jakirulta*—calque du nom russe *rasporyajenie*—ordre ;

*bodutu*—calque très maladroit et lourd du nom russe *podlinnik*—vrai, original. En langue de la chancellerie mongole contemporaine on usait le nom *eke* qui correspond parfaitement à nom russe *podlinnik* mais était inconnu aux employés bouriates jusqu'aujourd'hui ;

*anjiraqu-yin tula*—calque de la formule de chancellerie russe *dovesti do svedeniya*—solliciter l'attention.

*Tere tula*—calque assez pesant de la formule de chancellerie russe *sego radi*—pour cela. En langue mongole existait à ce temps une tournure—*egün-ü tula*—plus élégante que *tere tula* de la chancellerie bouriate.

Ces calques nous témoignent que les bouriates de Khori avant l'établissement de l'administration russe réglaient tous ses affaires par les décisions orales appuyées sur le droit coutumier et n'avaient pas du besoin de la langue de chancellerie bien élaborée comme chez leurs voisins mongols et que l'écriture et la langue littéraire mongole chez eux n'ayant que des fonctions purement éducatives et leur procurant une littérature très riche, n'avait pourtant pas des fonctions de la langue officielle. Et ce fut la langue russe officielle qui donna la naissance à la langue de chancellerie bouriate lourde et maladroite comme leur créateurs qui ne pouvaient pas trouver des mots convenables pour des idées si étranges et peu compréhensibles à travers le prisme de la mentalité de la langue russe aussi étrangère à eux. Et ne soupçonnant pas que beaucoup de termes officiels de la langue russe avaient sa correspondance en langue de chancellerie mongole ils tentaient de les traduire très maladroitement et au pied de la lettre. Ils ne soupçonnaient pas aussi que des noms russes tel *predsedatel'*, *pis'movoditel'*, etc. avaient bien ses correspondants en langue de chancellerie mongole très élégante et élaborée.

La lettre missive à taïcha Dimbeloun contient aussi ces emprunts qui sont un peu

transformés suivant des lois phonétiques de la langue bouriate et selon les exigences de l'orthographe mongole contemporaine en usage chez les bouriates.

Dans notre lettre de Douma de Steppe nous trouvons les termes officiels russes suivants:

*Stipnoi düüm-e* du russe *Stepnaya douma*;

*Singtabri*—russe *sentyabr'*—septembre;

*Glavnoi* dans le titre du taicha: *Glavnoi taicha* qui correspond au *glavnyi tayicha* en titre russe du chef de clans bouriates de Khorï;

*pridsidatil* qui correspond à *predsedatel'* en langue russe—président;

*jasidatil*—du russe *zasedatel'*—assesseur;

*pismovoditel*—du russe *pis'movoditel'*—secrétaire;

*imparatur*—du russe *imperator*—empereur.

Outre cela on employait dans des pièces de chancellerie bouriate l'abréviation russe No. à qui en chancellerie mongole correspond habituellement le nom *duṛar* usé devant le chiffre.

Il est curieux de noter que des plumitifs mongols après la cyrilisation de l'écriture aiment particulièrement d'user cette abréviation russe comme la manifestation haute de l'internationalisme, tout comme leurs prédécesseurs demi-cultivés bouriates du xix siècles qui à son temps la comptaient pour une marque de haute culture.

La lettre de Douma de Steppe nous montre que sous l'influence de la langue russe on changeait même l'ordre syntaxique de mots en mettant la date: *singtabri-yin 25 edüre 1840 on-a* qui mot-à-mot correspond à l'ordre de mots en russe: *sentyabrya 25 dnya 1840 goda* tandis que selon l'ordre normal de la langue mongole on doit de mettre l'an, puis le mois et enfin le jour: *1840 on-u ix sara-yin 25-u edür-e*.

Il est aussi curieux de noter que des gratte-papier mongols de nos jours aussi suivent l'exemple de leurs prédécesseurs bouriates du xix siècle en mettant la date comme *25/ix 1968 god!*

Suivant l'exemple de pièces de chancellerie russe la lettre de Douma de Steppe a aussi un entête, nous montrant qu les scribes bouriates copiaient minutieusement toutes les formes des papiers d'affaire russes.

Nous donnons ici le texte de la lettre de Douma de Steppes de Khorï en romanisation:

Qori-yin	Öndür erkim töröl-tü
Stipnoi	Noyan Qori-yin glavnoi tayisa, Stipnoi
Düüm-e-eče	Düüm-e-yin pridsidatil Rinčin dorji Dingbil-ün-dür.
.....	Ene Düüm-e-yin jakirulta-yin qariṛu-dur, Ana-a-gyin
Qutuṛ qada-yin	dačang-ün blam-a siregetü Borui-yin singtabri-yin 25
čiluṛun-u bečig-yi	edüre, kürgegsen dotura üjeküi-dür,
abuṛsan-u bodutu	Tede aqui yeke degedü ejin imparatur-un sang jogeri-
yi qamjiṛuluṛsan kürgelte	yin noyan-u keregleṛsen, Qutuṛ qada-yin čiluṛun-u
.....	bečig-yi üjebesü, qaruučiraṛu balaragsan böged, tegünče

Singtabri-yin	ni tuqayilaĵu temdeġ abuġsan-ıyan egüntei qamĵıġulba.
25 <sup>e</sup> edüre.	gemüi. Tere tulada abtuġsan temdeġ beċig-yi egün-lür-a
1840 <sup>e</sup> on-a	qamĵıġulĵi.
.....	Öndür erkim töröl-tü noyan tan-u angĵiraqu-yin tula
No. 4307 <sup>e</sup>	egüüber ayiladqaba.
.....	Ĵasidatil-un tula
Ana-a	Ĵakiy-a Yerentei-yin.
ġorigun.	Pismovoditil Tataburub.

On peut mentionner ici quelques particularités ou plus exactement des fautes orthographiques habituelles chez les scribes bouriates et mongols: *ċilurun* et *ġorigun* au lieu de *ċilarun* et *ġorigan*; *qaġuuċiraqu* et *egüüber* au lieu de *qaġuċiraqu* et *egüber*; *abtuġsan* au lieu de *abtaġsan*; *beċig-yi* au lieu de *biċig-i*.

On confondait aussi les caractères *ġ* et *g*: *temdeġ* au lieu de *temdeg*; *keregleġsen* au lieu de *keregleġsen*; *balaraġsan* au lieu de *balaraġsan* manque d'instruction et dans les deux cas derniers cette faute est explicable aussi par le fait que ces caractères ou plus exactement les suffixes *ġ* et *g* manquent en langue parlée.

Dans notre lettre on emploie sous l'influence de la tradition russe les noms de famille au lieu de prénoms: Dimbiloun ou plus exactement *Dingbil-ün*, *Borui-yin*, *Yerentei-yin* c. à d. le nom du père avec le suffixe du cas génitif *-ün*, *-yin*, en mettant ce nom au génitif selon l'usage russe après le prénom: *Sakiy-a Yerentein* au lieu d'ordre mongol *Yerentei-yin Sakiy-a*, etc. Cette tradition ayant au moins plus d'une centaine d'ans fut déjà enracinée dans la mentalité du peuple sous le nom de *albanai nere* qui correspond en mongol littéraire à *alban-u ner-e*—un nom officiel. En parler bouriate de Khorı et d'Aga on prononce le suffixe du génitif de la langue littéraire mongole *-un*, *-ün* comme *-ai*, *-ei* et les noms officiels tel Dimbeloun—*Dingbel-ün*, *Dimbel-ün* sont prononcés comme *Dimbelei*, etc.

En finissant ce petit article dédié à la soixantième anniversaire de mon collègue savant très estimé, je me suis permis de traduire le texte de la lettre de la Douma de Steppe de Khorı à son taicha en conservant tous les emprunts de la langue officielle russe dans leur forme bouriate pour montrer des particularités du style de la chancellerie bouriate du xix siècle:

De la Steпної	A Votre Haute Noblesse,
Douma	M. Rintchin dordji Dingbeloun, Главної таича
de Khorı	de Khorı, Пridsidatil de la Doume de
.....	Steppe.
Rapport avec la copie vraie	Moine du monastère d'Anâ, l'abbé Boroyin a pré-
de l'inscription rupestre	senté le 25 jour du Singtabri sa réponse à l'ordre
du rocher Khoutouk	de la Doume en rapportant que l'inscription
.....	rupestre du rocher Khoutouk demandée de la part
Du Singtabri	du Monsieur le Ministre du Cabinet des propriétés

25e jour  
de l'an 1840.

.....

NO. 4307.

.....

Rivière Anâ

de Sa Majesté l'Imperator est délabrée et effacée  
et l'on fait une imitation approximative qui est annexée  
à cette /réponse/. Et pour cela la reproduction est  
annexée à cette /lettre de Douma/.

Nous sollicitons, Monsieur, par cela l'attention de  
Votre Haute Noblesse.

Pour le Dzasidatil  
Dzakiya Yerenteyin.  
Pismovoditil  
Tatabourob

Le nom du secrétaire de la Douma de Steppe Tatabourob—en écriture mongole  
souscrit comme *Tataburub*—est le nom de famille russe Tatauroff. Son titre et sa  
signature sont écrits d'une autre main que le texte de notre lettre. Et sur la première  
page de la lettre au coin droit il y a une date: *Singtabri 26-du 1840 on-a—Le 26e du*  
*septembre 1948* écrit aussi d'une autre main. Et nous pouvons conclure que le taicha  
en chef—Glavnoi taicha mit par sa propre main la date de réception de cette  
lettre trouvée par M. le Prof. Dr. Žamtsarano dans les archives de la Doume de Steppe  
de Khorï à Ana.

OULANBATOR, MONGOLIE

# SUR LA DIPHTONGAISON DES VOYELLES

## E ET O EN ROUMAIN<sup>1</sup>

A. ROSETTI

Les voyelles *e* et *o* ont été diphtonguées, en roumain, lorsque la syllabe suivante du mot contenait un *a*(*ă*) ou *e*: *e* > *ɛa'*, *o* > *ɔa'*.

Ce phénomène constitue l'un des traits caractéristiques du roumain, et le sépare des autres langues romanes.<sup>2</sup>

Voici un tableau des traitements:

### *éléments latins*

*e'*—*a* (*ă*) > *ɛa'*: dr. *ceară*, ar. *țeară* < lat. *cera*,

*e'*—*e* > *ɛa'*: dr. *lege* (*leage*, au XVI<sup>e</sup> s.), ar. *leadze* < lat. *legem*,

*o'*—*a* (*ă*) > *ɔa'*: dr., ar. *coadă* < lat. *coda*,

*o'*—*e* > *ɔa'*: dr. *floare*, ar. *floari* < lat. *florem*.

### *éléments sud-slaves et néo-grecs:*

*e'*—*a* > *ɛa'*: dr. *ceată*: v.sl. *četa*, dr. *mireză* < n.-gr. *μύρισμα*.

*e'*—*e*: le phénomène n'a pas eu lieu: dr. *cremene*: v.sl. *kremy*, gén. *kremene*, dr., ar. *lele*: v.sl. *lelja*, dr. *peșteră*: v.sl. *peštera*, dr. *vesel*: v.sl. *veselŭ*,

*o'*—*a*(*ă*) > *ɔa'*: dr., ar. *coasă*: v.sl. *kosa*, dr. *coală* n.-gr. *κολλα*.

*o'*—*e*: le phénomène n'a pas eu lieu (tout comme pour *e*—*e*): dr. *cobe*, ar. *cob*: v.sl. *kobŭ*.

La non-diphtongaison de *e* et de *o* suivis de *e* dans les mots non-latins comporte l'explication suivante: la diphtongaison dans le cas *e'* (ou) *o'*—*a* (*ă*) s'explique aisément par un phénomène d'assimilation (Umlaut): *a* (ou *ă*) de la syllabe suivante a été groupé avec la voyelle *e'* ou *o'* de la syllabe précédente, d'où la diphtongue *ɛa'* ou *ɔa'*.

Lorsque la syllabe suivante contenait un *e*, le phénomène, pour se produire, comportait plusieurs étapes successives, donc un changement complexe, par rapport au précédent (*e* ou *o*—*ă*): *\*ee* > *\*eè* > *\*è* > *ɛa'*, *oe* > *oè* > *ɔa'*.

Si, dans les éléments latins du roumain, le phénomène est régulier, il n'en va pas de même ultérieurement, car les éléments slaves plus récents du roumain et les éléments empruntés au néo-grec n'ont pas souffert cette diphtongaison. La tendance phoné-

<sup>1</sup> dr. = dacoroumain, parlé au nord du Danube, ar. = aroumain, parlé au sud du Danube.

V. nos exposés, avec indications bibliographiques, dans notre *Istoria limbii române* (abréviation: *ILR*), București, 1968, p. 334-335, 360-362, 634-638.

<sup>2</sup> V. *ILR*, 361-362.

tique était donc parvenue à l'état d'épuisement.

Dans les mots issus du latin, le groupe de consonnes qui suivait dans certains mots la voyelle accentuée *e* ou *o* n'a pas fait obstacle à la diphtongaison, parce que le premier élément du groupe ne fermait pas la syllabe contenant la voyelle accentuée car, dans ce cas, cette voyelle n'aurait pas pu subir la diphtongaison. Il faut donc admettre, comme nous l'avons posé naguère,<sup>3</sup> que dans lat. *herba, septe, petra, testa* etc. la syllabation devait se présenter de la manière suivante: *he-rba se-pte, pe-tra, te-sta*, pour permettre la diphtongaison de l'*e'*: dr. *iarbă, șapte, piatră, țeastă* (cf. it. *pietra* etc.).

Dans les mots issus du slave, par exemple dans les noms de lieu *Cerna, Cesna, Lepșa* etc.,—même en admettant que ces noms datent des premiers contacts entre les Slaves et la population romanisée des provinces danubiennes—la conservation des timbres vocaliques non-diphtongués dans ces mots s'explique suffisamment par le fait que les noms de lieu restent à l'écart du mouvement qui imprime des changements aux mots du vocabulaire de base de la langue.<sup>4</sup>

La cause de la non-diphtongaison de la voyelle accentuée dans ces noms est donc pareille au même phénomène que l'on retrouve dans les noms de lieu *Cega, Bisoca, Dîlboca, Hliboca*, etc., où la voyelle accentuée n'est pas suivie par un groupe de consonnes.

Parmi les mots comportant un groupe de consonnes, qui ont pénétré en roumain à une époque ancienne et qui sont attestés en vieux slave, il convient de citer dr. *beznă* "obscurité profonde, nuit noire": v.sl. *bezďna* "Tief, Abgrund,"<sup>5</sup> où l'*e* n'a pas subi la diphtongaison.<sup>6</sup>

On a attribué ce traitement au groupe de consonnes qui suit la voyelle accentuée, dont l'un des éléments aurait fermé la syllabe contenant cette voyelle, mais il convient de formuler deux objections à cette explication:

1. si c'est la première consonne du groupe qui a empêché la diphtongaison dans dr. *beznă*, pourquoi le phénomène s'est cependant produit, dans les mêmes conditions

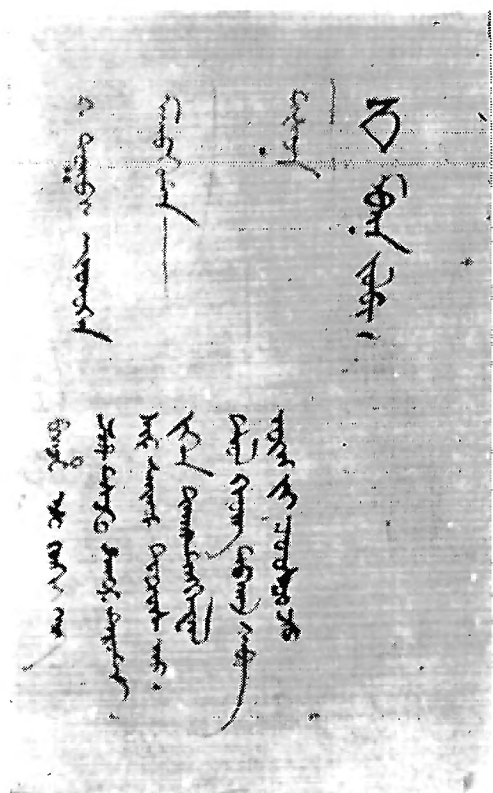
<sup>3</sup> V. ILR, 107.

<sup>4</sup> Pour A. Avram (*La diphtongaison de [e'], [o'] et le passage de [ă] à [i] en dacoroumain, Revue roumaine de linguistique*, XIII, 1968, pp. 397-400; abréviation: Avram), la non-diphtongaison, dans cette catégorie de mots, serait due à la présence du groupe de consonnes qui suit la voyelle accentuée. C'est opl'inion de Iorgu Iordan, dans son ouvrage consacré à ce phénomène (*Diftongarea lui e și o accentuați în pozițiile ă, e, Iași*, 1920), ainsi, par ex., à la p. 90: "il est impossible," nous dit-il, "de ne pas attribuer à l'existence de ces sons [les groupes de consonnes] l'absence de la diphtongue."

<sup>5</sup> L. Sadnik und R. Aitzetmüller, *Handwörterbuch zu den altkirchenslavischen Texten*, 's-Gravenhage, 1955, p. 9; abréviation: Aitzetmüller). Ce dictionnaire contient tous les mots employés dans les textes vieux-slaves (v. op. cit., p. VII). On sait que le *Lexicon palaeoslovenico-graeco-latinum* de Fr. Miklosich, Vindobonae, 1862-1865, enregistre aussi les termes fournis par des textes tardifs (XIII<sup>e</sup>—XVI<sup>e</sup> s.). V. aussi G. Mihăilă, *Imprumuturi vechi sud-slave în limba română*, București, 1960. Avram retient aussi dr. *bolță* "voûte," parmi les mots empruntés au vieux slave, dans lesquels l'*o'* n'a pas été diphtongué. Mais l'exemple est mal choisi, car *bolță* n'est pas vieux slave: il est attesté en bulgare, et c'est un emprunt à l'it. *volta*; v. E. Berneker, *Slavisches etymol. Wb.*, y Heidelberg, 1908-1913, p. 70 s.v.

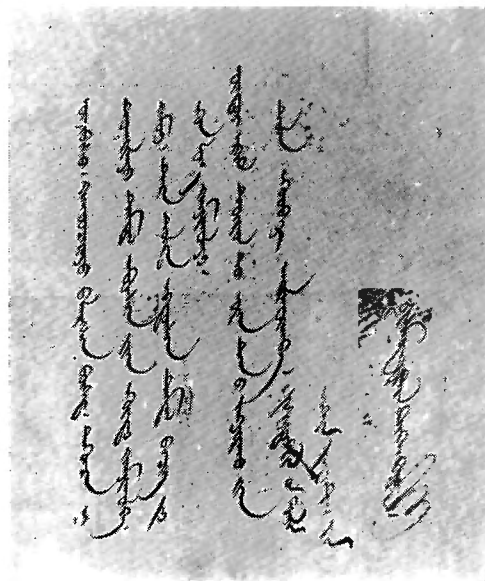
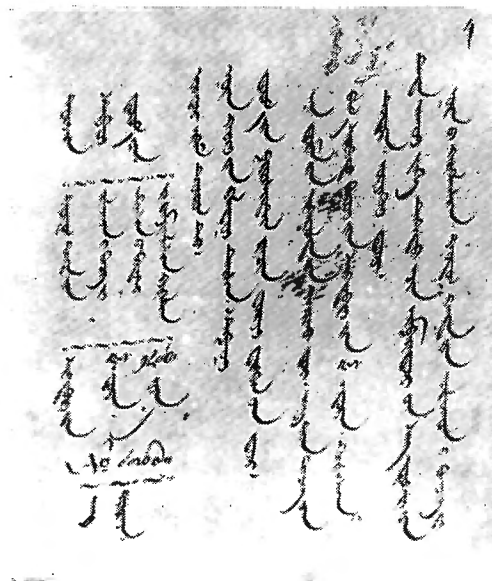
<sup>6</sup> Nous avons dépouillé les listes données par Iordan, 94 et s., 228 et s.





a) Copie de l'inscription rupestre  
à Khoutouk oula

b) Pièce de chancellerie bouriate





phonétiques, dans des emprunts récents tels que *boambă* (fr. *bombe*, it. *bomba*), *oardă* (fr. *horde*), *șoaldă* (cf. all. de Transylvanie *scholt*) etc.<sup>7</sup>

2. peut-on fonder une théorie sur le témoignage d'un seul mot (car, comme on le verra ci-dessous, dans d'autres mots issus du slave, la non-diphtongaison de la voyelle accentuée comporte une autre explication)? Assurément non.

Par conséquent, on expliquera le traitement particulier de *beznă* par ceci, que ce n'est pas un terme de la langue courante, et qu'il est donc resté à l'écart du changement. C'est ce qui est arrivé aussi à dr. *slovă* "lettre, caractère (écriture)": v.sl. *slovo* "Wort, Rede, Ansprache, Homilie, Geheiss" (Aitzetmüller, 121), bien attesté dans les textes vieux-slaves, qui fait partie d'un vocabulaire spécial.

Quant aux termes tels que dr. *cergă*, *gleznă*, *poreclă*, *sfeclă*, *lefter*, *clorbă*, ce sont des emprunts récents aux langues slaves méridionales, au néo-grec ou au turc ottoman (bg. *čerga*, v.sl. tardif *gleznŭ*, bg. *glezen*, v.sl. tardif et bg. *poreklo*, v.sl. tardif *sveklŭ*, n.-gr. ἐλεύθερος, tc. ottom. *çorba*), ou des termes dérivés (ainsi dr. *voră*, cf. v.sl. *dvorŭ*), où la voyelle accentuée n'a pas subi la diphtongaison du fait que la tendance à la diphtongaison était, comme nous l'avons vu, épuisée.

La voyelle accentuée de ces mots n'a pas été altérée, comme dans une série de termes, dépourvus de groupes consonantiques, empruntés à une date récente aux langues slaves méridionales, tels que *cegă*, *cofă*, *vodă*, (s.-cr. *čiga*, bg., s.-cr. *kofa*, v.sl. *vojevoda*), ou bien au néo-grec *horă*, *stemă* (< *χορός*, *στέμμα*), au magyar ou au turc ottoman (dr. *soba* < tc., bg. *soba*, magy. *szoba*), qui ont pénétré en roumain alors que la tendance à la diphtongaison que nous venons d'examiner avait disparu.<sup>8</sup>

\*

\*

\*

Nous dirons, pour conclure, que l'examen auquel nous venons de nous livrer nous dévoile un cas intéressant d'action d'une tendance phonétique, en pleine activité pendant quelques siècles, et qui faiblit ensuite de manière à ne plus manifester son activité que dans une partie de son domaine, pour disparaître ensuite.

UNIVERSITÉ DE BUCAREST, ROUMANIE

<sup>7</sup> L'affirmation d'Avram, que dans "deux tiers" des mots énumérés par Iordan (72 et s., 94 et s. 203 et s., 228 et s.) la voyelle accentuée s'est maintenue devant groupe de consonnes, est fondée sur des emprunts récents, en partie d'origine douteuse. La diphtongaison a eu cependant lieu dans des mots de cette catégorie, tels que ceux que nous avons énumérés ci-dessus, et dans *buleandră*, *bulearcă*, *foarcă*, *goangă*, *joardă*, etc.

<sup>8</sup> Iordan (233), à propos de dr. *sobă*: "l'absence de la diphtongue dans un mot tellement répandu nous semble curieuse et inexplicable" [!]

## ЗАМЕТКИ ПО ТЮРКСКО=МОНГОЛЬСКОМУ ВОКАЛИЗМУ

Г. Д. САНЖЕЕВ

В традиционной алтаистике признано, что вокализм тюркских, монгольских и тунгусо-маньчжурских, или тунгусских, языков представляет собою в основном результат определенных эволюционных изменений восьми гласных (задних: а, о, и, і и передних: е, ё, ё̄, і), которые некогда имелись соответственно в пратюркском, прамонгольском и пратунгусском языках, будучи унаследованы в том же составе от весьма гипотетического алтайского праязыка. В общем это соответствует действительности независимо от того, реально или нет существование такого праязыка. Если иметь в виду исходное состояние в системе вокализма в каждой из групп алтайских языков, то между последними нет каких-либо существенных расхождений при наличии более заметных различий в сфере консонантизма. Сказанное имеет место вопреки тому, что внутри каждой из групп этих языков фонетические различия вообще оказываются весьма существенными, особенно в сфере вокализма. Изложенное означает, что коль скоро реконструированы праязвук на общетюркском, общемонгольском и общетунгусском уровнях, для чего требуется применять сложный аппарат сравнительно-исторического исследования, то для идентификации таких отдельных праязыковых звуков, то есть для восстановления гипотетических алтайских праязыковых звуков, метод лингвистической реконструкции оказывается так же излишним, как, например, для определения общности слов типа русского *публика*, французского *public*, немецкого *Publikum* и т.п. То же самое надо сказать и относительно соответствующих явлений в сферах морфологии и лексики алтайских языков. Иными словами, производить сравнительно-исторические исследования в каждой отрасли алтаистики, например, в тюркологии или монголистике, иногда сложнее и труднее, нежели в общеалтаистском масштабе, если в данном случае отвлекаться от трудностей, связанных с семасиологической идентификацией сопоставляемых слов на основании их случайного фонетического сходства.

1. В алтаистической литературе такие явления в вокализме алтайских языков, как сингармонизм, образование так называемых вторичных долгот

и лишенные фонематического значения силовое и музыкальное ударения, признаются более или менее однотипными. Считается, что приведенные типы ударения в алтайских языках, в фонологическом отношении являясь избыточными, все же имеют свое определенное значение, например, для определения границ слов в потоке речи.

Поскольку в алтайских языках долгота гласных имеет фонематическое значение независимо от того, является ли она первичной или вторичной, а ударение оказывается фонематически же избыточным, то в общелингвистическом плане было бы любопытно сравнить эти явления с соответствующими явлениями в тех языках, в которых ударение фонематично, а долгота гласных избыточна. Хотя в какой-то мере алтайская долгота гласных фонематически как бы идентична ударности гласных же (бурятск. *ula* 'подошва,'—*ūla* 'гора,' русск. **зámок**—**замóк**, отсюда отражение в бурятском языке русских ударных гласных в виде долгих, конечно, в заимствованиях: бурятск. *holbto*—русс. **солóма**), подобные явления не могут сопоставляться друг с другом во всех отношениях. Во-первых, например, в русском языке нет ни одной такой пары односложных слов, которые отличались бы друг от друга по значению наличием ударности гласного в одном из них и отсутствием той же ударности в другом,—сращения типа "так-как вы сказали?" (сравните с выражением "тáк, кáк вы сказали") оказываются явлениями особого рода. Не то в алтайских языках, во многих из которых имеются многочисленные примеры того, как односложные слова семантически отличаются друг от друга именно благодаря долготе или краткости своего гласного: бурятск. *em* 'лекарство'—*ēm* 'плечо, ключица,' якутск. *tas* 'направление'—*tās* 'камень,' туркменск. *at* 'лошадь'—*āt* 'имя' и т.п. (сравните произношение французских слов типа *mettre* 'класть'—*maître* 'учитель,' *genne* 'олень'—*reine* 'королева'—и т.п.). Во-вторых, в том же русском языке, как и во многих других, нет ни одного такого неодносложного слова, или омоформы, в котором гласные были бы только ударными или только неударными, тогда как, например, в бурятском языке подобные явления имеются, будучи вполне обычными: *dege* 'изголовье'—*dēgē* 'у себя наверху,' *buga* 'изюбр'—*būgā* 'спустился' и т.д. В-третьих, долгота гласных характерна своей неподвижностью, тогда как ударение может быть подвижным, либо находясь в зависимости от соответствующих слогов (польск. *Кра'kow*, но *Крако'wa*), либо меняя свое место в ходе словоизменения и словопроизводства (русс. **горá**—**гóры**, **ши́ре**—**ширина́**). В-четвертых, в отличие от ударности долгота гласных чаще всего оказывается возмездительной, как бы компенсируя утрату в соответствующем слове какого-нибудь соседнего звука, например, в монгольском языке: *dēl* ←\**debel* 'шуба, халат.' К тому же об ударении говорят, что оно бывает силовым, музыкальным, слоговым, словесным и ритмическим, чего нельзя

сказать о долготе гласных.

По поводу места ударения в алтайских языках в общем устанавливается, что в современных тюркских языках оно падает на последний слог, тогда как в монгольских—на первый или, чаще всего, мало заметно. Относительно же того, на какой слог слова падало ударение в древности в этих языках, среди алтаистов нет какого-либо единого мнения.<sup>1</sup>

2. Среди алтаистов отсутствует единство мнений и по поводу структуры корней в тюркских и монгольских языках (показания тунгусских языков в общем совпадают с таковыми в монгольских). Здесь речь, собственно, идет о расхождениях между этими языками в отношении количества слогов корневых лексических морфем, о расхождениях, которые касаются следующих явлений:

а) в тюркских и монгольских языках имеются слова, односложные и двусложные основы которых количественно совпадают, например: киргизск. *bal* 'мед,' *džil* 'год,' *qaqa* 'черный,' *taqa* 'подкова'//соответственно монгольск. (письменные) *bal*, *džil*, *qaqa*, *taqa*,—конечно, по поводу слов этого типа среди алтаистов различных мнений нет независимо от того, признаются эти слова соответствующими заимствованиями в монгольских языках из тюркских или нет;

б) тюркским односложным словам с одним конечным согласным в монгольских языках соответствуют двусложные с конечным гласным, например: киргизск. *eg* 'муж, мужчина,' *kök* 'синий, голубой' и, вероятно, эфемистически 'небо,' *qat*= 'твердеть, черстветь,' *boz* 'серый'//соответственно монгольск. *ege*, *köke*, *qata*=, *bogo*←\**boga*;

в) тюркским односложным словам с двумя конечными согласными в монгольских языках соответствуют двусложные с конечным гласным, например: киргизск. *erk* 'воля, свобода,' *kert*= 'надсекать, рубить,' *ant* 'клятва'//соответственно монгольск. *erke*, *kerči*=, *anda* 'клятвенный друг, побратим.'

Иными словами, во многих случаях слова в тюркских языках на один слог короче соответствующих монгольских слов. Здесь нет необходимости вдаваться в подробный обзор различных точек зрения относительно изложенных явлений. Отметим только, что, по мнению одних ученых, в словах второго и третьего типов (в пунктах б и в) тюркские языки утратили конечные гласные, сохранившиеся в монгольских. По мнению же других исследователей-алтаистов, в монгольских словах соответствующих типов конечные гласные являются парагогическими, вставленными, чтобы избежать наличия таких согласных, которые вообще не могут находиться в

<sup>1</sup> Обзор различных точек зрения об ударении в алтайских языках см. W. Kotwicz, "Studia nad językami altajskimi,"—*Rocznik Orientalistyczny*, Krakow, 1953, Tom XVI, str. 14–27.

конечном положении.<sup>2</sup>

Однако надо иметь в виду, что, во-первых, не все согласные, являющиеся конечными в определенных тюркских словах, оказываются в монгольских языках нетерпимыми в том же конечном положении, например, =г, =з, =г (монгольск. *ger* 'юрта,' *džes* 'медь,' *tug* 'знамя'). Поэтому в монгольских *ege* 'муж, мужчина,' *basu* 'недооценивать, смотреть свысока,' *saga* 'доить' конечные гласные—*e*, *u*, *a*—не могут рассматриваться как парагогические при сопоставлении этих слов, например, с киргизск. *eg* 'муж, мужчина' и *bas* 'давить' и туркменск. *sag* 'доить.' Во-вторых, если в монгольских тюркизмах действительно оказываются некоторые согласные нетерпимыми в конечном положении, то они легко подвергаются соответствующей субституции, *=k→=g*, *=t→=d*, *=z→=s*, что позволяет в данном случае обходиться без парагогических гласных, например: киргизск. *kesek* 'кусок, комок'→монгольск. *keseg* 'кусок, часть,' киргизск. *džut* 'массовый падеж скота от бескормицы'→монгольск. *džud*, киргизск. *böz* 'мата'→монгольск. *bös* 'ткань, текстиль.' Правда, в некоторых, строго определенных случаях монгольские тюркизмы действительно наращиваются парагогическими гласными, например: *supu* 'растягиваться'←киргизск. *sup* 'протягивать; вытягивать,' монгольск. *qapu* 'быть доведенным'←киргизск. *qap* 'удовлетворяться': дело в том, что в монгольских языках глагольные основы не могут оканчиваться на переднеязычный согласный =п. Теоретически возможное предположение, что монгольские формы приведенных глагольных основ являются более изначальными, нежели тюркские (указание в наших примерах на киргизские параллели не означает, что в монгольских языках соответствующие тюркизмы являются заимствованиями именно из киргизского языка), исключается ввиду каузативных форм этих основ в виде *sunnga* 'растягивать' и *qangga* 'удовлетворять' (но бурятск. *hupā* вместо монгольск. *sunnga*=л).

В этой связи можно упомянуть, что в маньчжурском языке, в котором конечным может быть только =п, монголизмы с другими конечными согласными либо теряют их, либо наращиваются парагогическими гласными, например: *tu* 'знамя'←монгольск. *tug* и *dabquḡ* 'вдвойне'←монгольск. *dabquḡ*.

Таким образом, мысль о том, что в монгольских тюркизмах конечные гласные являются парагогическими по указанной выше причине, в ряде случаев представляется неубедительной.

3. Значительно сложнее обстоит дело со словами третьей группы, т.е. с тюркскими словами с двумя конечными согласными. Конечно, если исходить из постулата о том, что в тюркских языках односложность ряда

<sup>2</sup> Подробный разбор разных точек зрения по данному вопросу см. там же.

слов с двумя конечными согласными является изначальной, то конечные гласные в такого рода монгольских тюркизмах надо признать парагогическими. Однако до сих пор в алтаистике такой постулат не имеет достаточного основания, и во всяком случае, не встречает общего признания. По крайней мере в отношении некоторых монгольско-тюркских параллелей третьей группы надо допустить, что они изначально были двусложными и что монгольские формы подобных слов сохраняют наиболее древнейший облик. Здесь имеются в виду соответствие конечных  $=t$  и  $=č$  в тюркско-монгольских параллелях типа приведенных киргизск.  $kert=$  'надсекать, рубить'//монгольск.  $kerčī=$ , а также киргизск.  $džort=$  'рыскать'//монгольск.  $džorčī=$  'итти, шествовать.' Дело в том, что в монгольских языках вообще сочетание  $čī$  могло образоваться только из сочетания же  $*tī$  так же, как и сочетание  $džī$  из  $*dī$ . Поэтому монгольское сочетание  $čī$  должно соответствовать только такому тюркскому  $t$ , который некогда находился в положении перед гласным  $*i$ . Поэтому же тюркские односложные слова типа киргизск.  $kert=$  и  $džort=$  изначально могли быть непременно двусложными, в свое время утратившими свой конечный гласный  $*i$ . Если бы тюркские формы приведенного типа  $kert=$  и  $džort=$  были изначальными, то их монгольские параллели могли бы быть только в виде что-нибудь вроде  $kerte=$  и  $džorta=$ . Это—во-первых. А во-вторых, необходимо учитывать, что в тюркских языках характерны определенные сочетания согласных, а именно преимущественно сонорных  $=r=$  и, реже,  $=n=$  с несонантами  $=t$  и  $=k$ , но никоим образом не любые конечные сочетания согласных. А ведь именно такого рода сочетания конечных согласных прежде всего и образовались в современных монгольских диалектах халхаского типа в результате апокопы конечных гласных,—этот процесс происходил за исторически обозримое время, но не во всех монгольских диалектах. Это значит, что если бы все монгольские диалекты прошлого и настоящего в фонетическом отношении имели халхаский облик, то монголистика находилась бы в таком же неведении относительно исторического прошлого фонетики монгольских языков, в каком находится ныне тюркология, которая в изучаемых ею языках и диалектах не обнаруживают никаких следов былого наличия конечных гласных в словах разобранного типа! Так как тюркские языки в своем эволюционном развитии значительно опережали монгольские, можно утверждать, что происходящее ныне в монгольских языках как бы повторяет давно уже совершавшееся в историческом прошлом тюркских языков.

4. В тесной связи с только что сказанным необходимо рассмотреть и другое явление, на которое тюркологи не обращают должного внимания прежде всего по причине единообразия в показаниях тюркских языков и



диалектов. Здесь речь идет о соответствии монгольского гласного *i* тюркскому не=*i* гласному в словах типа монгольск. *džiruga* 'иноходец'=киргизск. *džorga*, монгольск. *džirüken* 'сердце'=киргизск. *džürök* и т.п. Эти расхождения между монгольским *i* и тюркским не=*i* гласным Б.Я. Владимирцов в свое время находил возможным объяснить "влиянием предыдущего *dž=*."<sup>3</sup> В более определенной форме Н.Н. Поппе заявил, что здесь монгольский *=i=* в старописьменном монгольском языке является "орфографической особенностью" и, передавая в словах данного типа гласный *=o=*, обозначает только, что предшествующий буквенный знак должен быть понят как *dž=*, например, слово со значением "иноходец" должно читаться в виде *džoruga*, а не *dzorguga* (соответствующая буква старо-монгольского алфавита является полифонным знаком только применительно к консонантизму свистяще-шипящей группы монгольских диалектов).<sup>4</sup> Однако такое толкование орфографии старописьменного монгольского письма является совершенно неправильным. Дело в том, что, во-первых, в монгольских диалектах свистяще-шипящей группы звуки *dz//z* и *ts//s* появились очень поздно, когда в этих диалектах соответствующие тюркизмы давно уже были достоянием их лексики. Во-вторых, в ряде монгольских диалектов ордосского типа и по сей день в соответствующих словах имеется гласный *i*, например, *džirö* 'иноходец,' *džilö* 'поводья.' Этот же гласный *i* имеется и в эвенкийских монголизмах (тюркские слова проникали в тунгусские языки вообще через монгольские) *dire* 'иноходец,' *diluga* 'поводья,' которые, конечно, не могут рассматриваться как заимствования непосредственно из старописьменного монгольского языка.

Следовательно, гласный *i* в словах приведенного типа является изначальным, а старописьменная монгольская орфография точно передает этот гласный и не прибегает к искусственному приему якобы для передачи шипящего *dž* вместо свистящего *dz*, которого некогда вообще не было во всех монгольских диалектах. Однако требуется объяснить соответствие монгольского *i* тюркскому не=*i* гласному. По всей вероятности, надо предположить, что в ряде подобных слов тюркские языки когда-то имели тот же гласный *\*=i* или, по сингармонизму, *\*=i*: возможно, что именно здесь обнаруживается то, что скрыто от взоров тюркологов ввиду единообразия в показаниях всех тюркских языков. Очевидно, в этих языках на много раньше, нежели в монгольских, происходил "перелом" гласного *i*, который сохраняется в некоторых тюркских языках, например, в слове хакасск. *pizo* теленок, тувинск. *bizä*, ногайск. *bizaw~buzaw*=монгольск. *biragu*←*\*biragu* 'теленок двух лет.' Сравнить монгольск. *nidurga*←*\*nīdurga*

<sup>3</sup> Б.Я. Владимирцов, "Турецкие элементы в монгольском языке", *Записки Восточного Отделения Русского Археологического общества*, том XX, С.—Петербург, 1911, стр. 174.

<sup>4</sup> Н.Н. Поппе, *Аларский говор*, часть первая, Ленинград, 1930, стр. 21.

‘кулак, обшлаг рукава’=киргизск. *džuduruq*. В качестве исходных форм этих слов устанавливаются иногда соответственно *\*buzagu~\*buragu, n'uduruqa*. Однако, во-первых, для алтайских языков в границах корневых лексических морфем развитие *i←u* вообще нельзя считать возможным, если исключить маловероятные случаи регрессивной ассимиляции. Поэтому для слова со значением ‘теленка’ праязыковой формой следует признать *\*bīzagu* или *\*bīragu*. Во-вторых, палатализация согласного *n'* в приведенном слове со значением ‘кулак, обшлаг’ *n'uduruqa* могла быть только следствием того, что этот согласный находился в положении перед гласным *\*=i*.

Если в монгольских языках, например, в первом слоге слова *džiruga* ‘иноходец’ изначально был гласный *=i*, то каким образом истолковать однозначное тюркск. *džorga~jorga*? Поскольку, во-первых, *dži=* в монгольском *džiruga* обязательно предполагает и в тюркском эквиваленте этого слова *\*dži=~\*ji=*, а, во-вторых, сочетание это перед следующим гласным *=a* должно было развиваться в *dža=~ja=*, то вместо действительного *džorga~jorga* в тюркских языках имело бы что-нибудь вроде *džarga~jarga*. Поэтому надо думать, что между *=i* первого слова и *=a* второго слога непременно был также третий в данном слове гласный *\*=u*, так как в тюркских языках, как и в монгольских, гласный *o* был возможен только в первом слоге. Следовательно, тюркск. *džorga~jorga* ‘иноходец’ восходит, как и в монгольском языке, к более древней, праязыковой форме *\*džiruga* или *\*jiruga*. Обычно принято считать, что это тюркское слово производно от глагольной основы *jor=~jorī=* ‘итти, бродить’ и т.д., а также этимологически связано со словом типа киргизск. *džort=* ‘рыскать.’ Если это действительно так, то монгольск. *džori=* ‘направляться, устремляться, намереваться’=старотюркск. *jor=~jorī=* и монгольск. *džorci=* ‘шествовать, итти целенаправленно’=киргизск. *džort=←\*džortī=* (см. выше) представляют собою явления, заимствования, значительно более поздние, нежели *\*džiruga~\*jiruga*, образовавшиеся после предположительного “перелома” гласного *\*i~\*ī* в тюркских языках.

\*                      \*                      \*

Следовательно, в тюркских языках, как и в монгольских, в обозримом историческом прошлом односложных слов было значительно меньше, нежели в настоящее время. Что же касается того, что якобы в алтайских языках некогда почти все слова вообще были односложными, то это—дело столь далекого прошлого, что о нем можно говорить лишь умозрительно и спекулятивно, совершенно отвлекаясь от явлений в реальных языках настоящего и прошлого.

В заключение отметим, что все приведенные выше и аналогичные им монгольско-тюркские лексические параллели, в некоторых своих частях

имеющие различный фонетический облик, почти полностью являются результатом взаимных тюркско-монгольских заимствований. Причем тюркизмы в монгольских языках представлены в значительно большем количестве и относятся к более ранним периодам, нежели монголизмы в тюркских языках. К тому же все эти заимствования не являются одновременными, а потому рассмотренные выше явления не могут быть решены однозначно.

ИНСТИТУТ ВОСТОКОВЕДЕНИЯ АН СССР

# KOREAN SIBLING TERMS AND THEIR STRUCTURE

TAKESI SIBATA

## 0. The Seoul dialect and the informant

This paper is a study of the structure of sibling terms in the Seoul dialect as lexical items. In Korean there are many different sibling terms and the relationship of these terms is seemingly complicated. However, fairly simple structures can be found through analysis into appropriate components.

The Seoul dialect analyzed here is a language of educated people born in Seoul. The informant is Mr. Dongjun Kim (金東俊) who was born in Seoul in 1924, graduated from Kukhak University, Seoul in 1951, and has been a teacher of Korean in Tokyo since 1961.

## 1. Terms of reference

The cases of reference and of address must be analyzed independently, since kinship terms in these two cases are not identical in many languages.

### 1. 1 Componential features

In English the only sibling terms are "brother" and "sister," but in the Seoul dialect the corresponding linguistic forms are,

brother: *au*, *aunim*, *begs'i*, *doŋseŋ*, *hjoŋ*, *hjoŋnim*, *juŋs'i*, *kes'i*, *op'a*, *orabi*,  
*orabom*, *oraboni*

sister: *au*, *aunim*, *doŋseŋ*, *hiŋ*, *hiŋnim*, *mes'i*, *nui*, *nuna*, *nunim*, *onni*<sup>1</sup>

This table tells us:

1) Some linguistic forms are common to both categories. *Au*, *aunim*, *doŋseŋ*, *hjoŋ* and *hjoŋnim* are common to both "brother" and "sister." This indicates that the structure of sibling terms in the Seoul dialect is different from that of English. Besides the feature male/female in brother/sister, some other features must be added to the analysis.

2) The relation of linguistic forms and items are not in one to one correspondence, as is shown above. Moreover, linguistic forms differing in level or style may have been put into the same category.

3) There are morphemic oppositions (e.g. *—/—nim*) in the linguistic forms like *hjoŋ/*

---

<sup>1</sup> All above are written in phonemic transcription and all followings are the same.

*hjoŋnim*, *au/aunim*, etc. Since *-nim* is honorific suffix, some linguistic forms correspond to each other as honorific and non-honorific. In other words, they correspond on different levels or styles.

Now let us add another component feature (elder/younger) to the feature of gender (male/female).<sup>2</sup>

elder brother: *begs'i*, *hjoŋ*, *hjoŋnim*, *juŋs'i*, *op'a*, *orabi*, *orabom*, *oraboni*

elder sister: *hjoŋ*, *hjoŋnim*, *mes'i*, *nui*, *nuna*, *nunim*, *onni*

younger brother: *au*, *aunim*, *doŋseŋ*, *kes'i*, *orabi*

younger sister: *au*, *aunim*, *doŋseŋ*, *mes'i*, *nui*

In this table, there are no linguistic forms common to elder brother and younger brother except *orabi*. Between elder sister and younger sister there are no linguistic forms in common except *mes'i* and *nui*, but between elder brother and elder sister the forms *hjoŋ* and *hjoŋnim* appear in common. Between younger brother and younger sister *au*, *aunim* and *doŋseŋ* appear in common. In addition, the many linguistic forms after each item indicate that there are still other componential features to be found.

Now let distinguish the two cases, central person = male and central person = female.<sup>3</sup>

Central person = male:

elder brother: *begs'i*, *hjoŋ*, *hjoŋnim*, *juŋs'i*

elder sister: *mes'i*, *nui*, *nuna*, *nunim*

younger brother: *au*, *aunim*, *doŋseŋ*, *kes'i*

younger sister: *doŋseŋ*, *mes'i*, *nui*

Central person = female:

elder brother: *op'a*, *orabi*, *orabom*, *oraboni*

elder sister: *hjoŋ*, *hjoŋnim*, *onni*

younger brother: *aunim*, *doŋseŋ*, *orabi*

younger sister: *au*, *aunim*, *doŋseŋ*

Even with this analysis, *aunim* and *doŋseŋ* appear under younger brother both where c.p. = male and c.p. = female, and *doŋseŋ* also appears under younger sister where c.p. = male and where c.p. = female. The number of linguistic forms belonging to each item is not yet sufficiently reduced. More analysis is needed.

The following table further distinguishes c.p. = me, c.p. = you and c.p. = him/her.

C.p. = me, male:

<sup>2</sup> In the Japanese language there exist terms combining these two features. These are,

elder brother: *ani*

elder sister: *ane*

younger brother: *ototo*

younger sister: *imooto*.

<sup>3</sup> The term 'central person' is adopted instead of the term 'ego' from the paper "Orok kinship terms" read at 8th International Congress of Anthropological and Ethnological Sciences, Tokyo, September 1968 by Professor J. Ikegami, Hokkaido University. Since 'ego' can be you or him/her besides me, 'central person' is rather more useful for scientific description.

- e.b.: *hjoŋ, hjoŋnim*  
 e.s.: *nui, nuna, nunim*  
 y.b.: *au, doŋseŋ*  
 y.s.: *doŋseŋ, nui*

C.p.=me, female:

- e.b.: *op'a, orabi, orabɔni*  
 e.s.: *hjoŋ, hjoŋnim, ɔnni*  
 y.b.: *doŋseŋ, orabi*  
 y.s.: *au, doŋseŋ*

C.p.=you, male:

- e.b.: *begs'i, hjoŋ, hjoŋnim, juŋs'i*  
 e.s.: *mes'i, nui, nunim*  
 y.b.: *au, aunim, doŋseŋ, kes'i*  
 y.s.: *doŋseŋ, mes'i, nui*

C.p.=you, female:

- e.b.: *op'a, orabi, orabɔm, orabɔni*  
 e.s.: *hjoŋ, hjoŋnim, ɔnni*  
 y.b.: *au, aunim, doŋseŋ*  
 y.s.: *aunim, doŋseŋ*

C.p.=him, male:

- e.b.: *hjoŋ*  
 e.s.: *nui, nuna*  
 y.b.: *au, doŋseŋ*  
 y.s.: *doŋseŋ, nui*

C.p.=her, female:

- e.b.: *op'a, orabi, orabɔm*  
 e.s.: *hjoŋ, ɔnni*  
 y.b.: *doŋseŋ, orabi*  
 y.s.: *au, doŋseŋ*

## 1. 2 Stylistic features

From the results of the above analysis the following stylistic features are noticed:

1) *begs'i, juŋs'i, kes'i* and *mes'i* are honorific forms used only in the case of c.p.=you, male. These words are male vocabulary used only when both speaker and hearer are male. They are all Chinese borrowed words which are generally male language in Korean as for example *begs'i*<Chin. 伯氏, *juŋs'i*<Chin. 仲氏 (*begs'i* means an eldest son, *juŋs'i* means all sons younger than the eldest.), *mes'i*>Chin. 妹氏, *kes'i*<Chin. 季氏.

2) The linguistic forms above include the children's words *nuna, op'a* and *ɔnni*. These children's words will be excluded since this study is an analysis of adult language. However it should be noted that these children's words are not only used among children, but by child to adult, or adult to child. For example *ɔnni* is used to refer to elder

sister, when the hearer is younger than the speaker.

The following table excludes the above-mentioned stylistic features.

3rd person \ c. p.	him or her		me		you	
	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>
e. b.	<i>h</i>	<i>βb</i>	<i>hH</i>	<i>bB</i>	<i>hH</i>	<i>βbB</i>
e. s.	<i>n</i>	<i>h</i>	<i>nN</i>	<i>hH</i>	<i>nN</i>	<i>hH</i>
y. b.	<i>ad</i>	<i>bd</i>	<i>ad</i>	<i>bd</i>	<i>aAd</i>	<i>aAd</i>
y. s.	<i>nd</i>	<i>ad</i>	<i>nd</i>	<i>ad</i>	<i>nd</i>	<i>Ad</i>

*a*=*au*   *β*=*orabom*

*A*=*aunim*

*b*=*orabi*

*B*=*oraboni*

*d*=*doŋseŋ*

*h*=*hjoŋ*

*H*=*hjoŋnim*

*n*=*nui*

*N*=*nunim*

Even with this analysis, however, there are still two or more linguistic forms in one column, and the same form or group of forms appears in non-neighboring columns. This means it can be structuralized into a simpler system.

### 1. 3 The structure of sibling terms where central person = him/her

In the case of objective description with no personal relation to persons mentioned requiring honorific expressions as in the phrase "X is an elder brother of Y.", the following structure emerges from analysis. 3rd in the table means the third person or the Y of the above sample phrase, 4th is the fourth person or the Y of the above.

4th—3rd \ 4th ≥ 3rd	4th—3rd		4th—3rd	
	<i>m—m</i>	<i>f—f</i>	<i>m—f</i>	<i>f—m</i>
4th > 3rd (=e.)	<i>h</i>	<i>βb</i>	<i>n</i>	
4th < 3rd (=y.)	<i>ad</i>	<i>bd</i>	<i>nd</i>	

≥ elder (higher status) or younger (lower status)

— (X) is (Y)

Fig. 1. Central person = him or her without personal relation

*h* (*hjoŋ*) indicates an elder sibling of the same sex as c.p. The word *hjoŋ* comes diachronically from a Chinese word which means "elder brother." In opposition to this, *a* (*au*) indicates a younger sibling. The word *au* diachronically comes from *az* which means "little one" in the Middle Korean. *orabom* and *orabi* come from M.K. *or-* 'small' and *-abom*, *-abi* 'father.'

In the case of c.p. = him/her with personal relation requiring honorific expression

between 4th person and speaker (Sp), the structure is somewhat more complicated than in the above.

4th—3rd 4th $\geq$ 3rd	4th—3rd				4th—3rd			
	m—m	f—f	m—m	f—f	m—f		f—m	
4th>3rd	<i>H</i>		<i>h</i>		<i>B</i>	$\beta b$	<i>N</i>	<i>n</i>
4th<3rd	<i>Ad</i>		<i>ad</i>	<i>d</i>				
4th $\geq$ 3rd 4th $\geq$ Sp	4th>Sp		4th<Sp		4th>Sp	4th<Sp	4th>Sp	4th<Sp

Fig. 2 Central person=him or her with personal relation

As compared with Fig. 1 we find that in Fig. 2 the group indicated by capital letters has been added. This group appears only where 4th>Sp, which means that the person referred to is older in age or higher in social status than the speaker.

This table makes it clear that neither hearer (Hr) nor the relative sex of Sp and 4th or 3rd are significant features.

#### 1. 4 The structure where central person=me

In this case the structure of the vocabulary of "talking about" and that of introductions must be analyzed separately from each other. The former case is identical with c.p.=him/her. The latter case is as follows.

<div>3rd—Sp</div> <div>3rd<math>\geq</math>Sp</div>	3rd—Sp				3rd—Sp			
	m—m	f—f	m—m	f—f	m—f	f—m		
3rd>Sp	H		hH		B	nN		
3rd<Sp	ad		d					
<div>3rd<math>\geq</math>Sp</div> <div>3rd<math>\geq</math>Hr</div>	3rd>Hr		3rd<Hr		3rd>Hr	3rd<Hr	3rd>Hr	3rd<Hr

Fig. 3 Central person=me, introductions

In this analysis, both all the relations between Sp and Hr and relative sex of 3rd and Hr are nonsignificant.

#### 1. 5 The structure where central person=you

This is the case of talking about Hr's siblings. The older-younger or higher-lower relation between 3rd, Sp and Hr all must be considered in the analysis in addition to the relative sex both of 3rd and Hr and of 3rd and Sp.



The structure is found to be:

3rd—Hr 3rd ≥Hr ≥Sp	3rd—Hr				3rd—Hr	
	m—m	f—f	m—m	f—f	m—f	f—m
3rd>Sp>Hr	<i>H</i>				<i>B</i>	<i>N</i>
3rd>Hr>Sp						
Sp>3rd>Hr					<i>βb</i>	<i>n</i>
Sp>Hr>3rd	<i>ad</i>	<i>d</i>			<i>d</i>	<i>nd</i>
Hr>Sp>3rd	<i>A</i>	<i>Ad</i>	<i>d</i>			<i>d</i>
Hr>3rd>Sp				<i>Ad</i>		( <i>m</i> )
3rd≥Hr ≥Sp 3rd= ≠Sp	3rd=Sp	3rd≠Sp			3rd=Sp	3rd≠Sp

Fig. 4 Central person = you

In the case of Hr, male>3rd, female; Sp, male, the stylistic form *m*, that is *mēs'i* is used. Although the person referred to is female, neither *n* (*nul*) nor *d* (*doŋseŋ*) is permitted because hearer is older than speaker and both are males. The form *m* is also found with *N* in the column 3rd, female>Hr, male; Sp.

Where there are two or three forms in one column the differences are analyzed below, with the exception of *β* and *b*.

	formal	informal		formal	informal
polite	<i>A</i>	<i>d</i>	polite	<i>N</i>	<i>d</i>
non-polite	<i>a</i>		non-polite	<i>n</i>	

The informant explains that the relations *H/h* and *N/n* are polite/non-polite, but that *a/d* is formal/informal. So that the former small letter expressions are "a rude way of speaking," whereas the latter is "an intimate way of speaking." He also explains that *d* is a form indicating only the relationship. This explanation relates well with the fact that *au* has *aunim* as a polite form, but *doŋseŋ* has no such corresponding form. When an elder sister refers to the wife of her younger brother, who is rather close to her, she uses *d* as in *doŋseŋe deg* "doŋseŋ's wife," but does not use *au*. However, when it is the wife of her husband's younger brother, who is culturally not considered to be so close to her, she uses *au* as in *au doŋse*<sup>4</sup> but not *doŋseŋ*.

If a very close relationship exists between non-relatives, such as ladies often have in this society, *aunim* (polite form of *au*) is used referring to a younger sister of the hearer, whereas *doηseη* is not used in this case. Further, in a case like *au bonda* "my younger brother is born" *au* is used, not *doηseη*. If the speaker is male, *au* is appropriate instead of *au* or *doηseη* in all cases corresponding to the above. This follows from the fact that *au* and *doηseη* are different only in style.

### 1. 6 Comparison of the cases of central person = him/her, me and you

The relations between Sp, Hr, 3rd and 4th are different where central person = him/her, me and you. The lines in the figure below indicate positive factors in the analysis. The four cases may be compared as follows:

c.p. = him/her	= him/her	= me	= you
without	with		
personal	personal		
relation	relation		
4th = 3rd (c.p.)	4th = 3rd (c.p.)	3rd = Sp (c.p.)	3rd = Hr (c.p.)
	Sp	Hr	Sp

These diagrams highlight the way in which the kinship relation between c.p. and the person referred to are a critical factor in the use of kinship terms.

	m—m	f—f	m—f	f—m
elder	<i>hH</i>		<i>βbB</i>	<i>nN</i>
younger	<i>aAd</i>		<i>bAd</i>	<i>nd</i> <i>d</i>

Fig. 5 General system

	m—m	f—f	m—f	f—m
elder	<i>h</i>	( <i>β</i> ) <i>b</i>		<i>n</i>
younger	<i>d</i>			

Fig. 6 Base system

In Fig. 5 the boxes indicating the analysis and the linguistic forms put into them in each of the four cases have a distinct similarity in rough meaning as shown above. The

<sup>4</sup> *doηse* is used among the wives of a group of brothers in referring to each other.

framework cannot be divided into other and smaller columns. In no column are there found other linguistic forms except for stylistic ones.

Now let us choose just those non-polite and informal forms which will yield a simple system. This (Fig. 6) is the base system and basic lexicon for sibling terms in Korean.

### 1. 7 The structure of children's language

*nuna*, *op'a* and *nni* are children's language as is shown in section 1. 2-2). The structure of sibling terms in children's language is as follows. Here, the cases of "introductions" and "talking about" are not distinguishable.

	m—m	f—f	m—f	f—m	
elder	<i>h</i>	<i>q</i>	<i>p</i>	<i>r</i>	<i>p</i> = <i>op'a</i> <i>q</i> = <i>nni</i> <i>r</i> = <i>nuna</i>
younger	<i>d</i>				

Fig. 7 Children's language

The framework of this structure is similar to that of c.p. = me, introductions.

### 2. Terms of address

Here, the marital status of the hearer (especially where the hearer has a child) must be distinguished as a feature. The structure of the premarital case is as follows.

<i>h</i>	<i>q</i>	<i>p</i>	<i>r</i>
(name)			

Fig. 8 Terms of address before hearer's marriage

This structure is fairly similar to that of children's language. The only difference is in addressing younger siblings by personal name where *d* is used in children's language.

	m—m	f—f	m—f	f—m
elder	<i>hH</i>	<i>B</i>	<i>N</i>	
younger	( <i>jeλ</i> )	( <i>ai amom</i> )	( <i>ai abom</i> )	( <i>jeλ</i> )

Fig. 9 Terms of address after hearer's marriage

This is fairly similar to the system used in introductions where c.p. = me. However for younger siblings, the personal name is not used here. Instead, such expressions

as *je:* "hey," *ai ɔmɔm* "mother of son," and *ai abɔm* "father of son," are used. Obviously these are not true sibling terms.

### 3. Conclusion

In the case of terms of address, the structural features of sibling terms in Korean are,

- (1) relative age or status: elder (older) or higher/younger or lower
- (2) relative sex: male/male, female/female, male/female, female/male
- (3) marital status of person addressed: married/unmarried

In the case of terms of reference there are,

- (1) relative age or status: elder or higher/younger or lower
- (2) relative sex: male/male, female/female, male/female, female/male
- (4) central person: him or her/me/you
- (5) situation: introductions/talking about

The kinship relation between the central person and the person referred to is shown to be the central factor of the analysis.

The apparently complicated structure of sibling terms becomes rather simple through an appropriate analysis. The structures of sibling terms when described in terms of certain componential features are simplified and became fairly similar to each other.

UNIVERSITY OF TOKYO, JAPAN

# MORPHEMIC MAKE-UP AND WORLD VIEW\*

## (DOES THE MORPHEMIC MAKE-UP OF A LANGUAGE REFLECT THE WORLD VIEW OF ITS SPEAKERS? NEW MATERIAL TO ANSWER AN OLD QUESTION)

BERTHE SIERTSEMA

### 1. Introduction

The question of the relationship—if any—between a man's language and his world view has long had the attention of anthropologists, ethnologists, linguists, philosophers, psychologists and sociologists. Now that all sorts of peoples living in so-called "primitive" conditions are drawing the attention of the rest of the world, the question of this relationship has also received a new interest.

There is much vagueness, however, as to the nature of the relationship to be expected. Investigators still "do not really so far know what they are looking for," as M. Singer remarked during the 1953 Conference on the subject at Chicago (*Language in Culture*, Chicago 1954, 245). The most substantial and clear statements are made by those who consider the relationship as one of cause and effect. Among them there is uncertainty again, however, as to which side the cause, and which side the effect is to be looked for. Some view the morphemic make-up of a people's language as a result of the way in which the people views and knows the world around and "cuts it up" into categories. Others on the contrary consider the latter as a result of the language the people speak. The structure of a language, they say, obliges people to express themselves in a certain way from which they cannot deviate; thus they are compelled to "cut up" the world around them along the lines of the morpheme categories of their language, they are compelled to "think" according to the morphemic structure of their language.

We shall try to consider briefly to what extent these views agree with the facts we encounter.

### 2. Language and Thinking

Naturally, there is a certain interplay between language and thinking, and because of that also between a person's language and his world view. In Europe, scholars have been aware of this connection for at least two centuries past, as Professor Greenberg

---

\* A rather different version of this paper was presented at the Fourth West African Languages Congress, Ibadan, Nigeria, 1964.

pointed out at the conference already mentioned (*Language in Culture*, 3). One of the present-day continental scholars who have written extensively on the subject is Leo Weisgerber, i.a. in his book *Das Gesetz der Sprache* (Heidelberg 1951). He speaks of the "re-moulding of the world into the possession of the mind" (p. 27, transl. BS), and points out how language, its words and morphemes, are indispensable in order to delimit and grasp for instance psychical facts or the abstract ("Geistiges").

Weisgerber is right here; in scientific work, for instance, we experience it again and again. A person develops in his thinking a new, as yet vague, concept, and gives it a name so as to be able to "handle" it. *What* name that is, *what* its morphemic structure is, is of little importance: important is the fact that there is *a* name for the concept. For as soon as a concept can be "named," i.e. can be referred to by means of a fixed expression, it can be used in the exchange of thoughts and ideas, and thus it becomes more clearly outlined than when it has to be described in ever changing phrases. Thus the new concept comes to settle down in the world view of the users, and becomes a new startingpoint for the further development of thought.

### 3. World View determined by language?

#### a. *Theory*

Weisgerber goes further, however, than to underline this mutual influence between language and thinking: he is one of those who consider the mother tongue as the power that *shapes* a man's world view. He is convinced, for instance, that much in the world of the abstract "*did not exist at all* before it was 'coined' in the vocabulary of a mother tongue" (op. cit. 28, tr. and it. BS), that many ideas and concepts originated only when they were framed into a word. And not only the world of the abstract, but also our conception of "concrete" things around us is "shaped" by our language, he says.

Thus many an African language would in this view be said to compel its speakers to subsume under the concept 'red' also a colour which a European language would subsume under 'orange' or 'brown,' such as the colour of the yolk of an egg or of a light brown skin (Yoruba "pupa eyin," = 'red (of) egg'; "ó pupa béléjé" = 'she is red attractively': 'she is attractively light-skinned').<sup>1</sup> On the other hand, a word like English "uncle" would presumably oblige the Englishman to combine into one conceptual unit four different kinds of relatives which in another language would be clearly distinguished: 'brother of father or mother; husband of father's or mother's sister.' It is rightly, says Weisgerber, that the philosopher Von Humboldt called language: not an "ergon" but an "energeia."

Can one follow Weisgerber also in these statements? Would it be true, e.g., that the

<sup>1</sup> To facilitate printing, the dots under *e* and *o* indicating Yoruba [ɛ] and [ɔ] respectively have been omitted throughout this paper.

speakers who unhesitatingly denote the colour 'orange' with the word "red," have no colour-concept 'orange' and are therefore not aware of the difference between the colours 'red' and 'orange'? Would it be true that an Englishman cannot distinguish between his "uncle": 'his father's brother,' and his "uncle": 'his mother's brother,' because he does not have different words for them? Do Dutch people, who have no word for English "privacy," lack the concept too? Would they be unable to complain of the lack of privacy when necessary? One need only listen to people talking about these things to know that this idea is not correct, not even where something "abstract" is concerned.

Rightly has Shirô Hattori pointed out that concept and word-meaning are different things: "the *sememe* of a word is not the *concept* of a class of things, events, etc. in question, but it concerns only *some* of the features *common* to the things, events, etc. in question" ("The Analysis of Meaning," *For Roman Jakobson* 1956, 209, italics BS). And rightly does he distinguish between what a word *means* (its "sememe") and what it *denotes* when used in a particular situation (which he calls "the meaning of an utterance-fraction corresponding to the word" (op. cit. 211)). And as Shirô Hattori states that "the fact that the same thing or event may be referred to by means of various words does not mean that the sememes of these words are the same" (loc. cit.), the opposite is also true: the fact that various things or events may be referred to by means of the same word does not mean that these things or events are viewed as the same.

#### b. *Proofs from practice*

The phenomena of periphrasis and of coining new words also disprove the idea that language should determine the world view. For, all kinds of new things and concepts which are suddenly introduced into a language community, as is happening on such a large scale in Africa today, can always be described in the native language. As the new concept gradually becomes common property of the community, its description may be standardized into a fixed expression and eventually become one polymorphemic word.

Thus the Yoruba term for "vaccinate" is "kọ nqmbà," meaning 'to carve(a) number.' The term originated in a small-pox epidemic some twelve years ago, during which the medicals at the various vaccinating stations in town tallied on a list the number of people they vaccinated. The African inventor of the term probably thought that the same number of scores was scratched on his arm with the vaccination needle: *his "world view" of the moment created his expression.* This is often how a new word starts its life. The next stage of the life of the new Yoruba expression was reached when it came to be used by health authorities to propagate vaccination by posters and loudspeakers in town and in the bush; when, in other words, the term caught on. At that stage, it may well have influenced the other Yoruba's conception of 'vaccinating,' and they will probably even have had this mistaken notion confirmed when they saw it done. For them it was true on this point that their *language influenced—created even*

—*their* “world view.” But this lasted only as long as they did not know better. For after this, quite common, second stage in the life of a word there usually follows a third and lasting stage: that of its conventionality. In our example: when the Yoruba got to know by further medical propaganda in journals and lectures, what ‘vaccination’ really was, *they did not drop the expression, “kọ nọmbà.”* They just went on calling the treatment by that term, which by then had become *the generally accepted sign for this concept: a conventional sign henceforth*, i.e. “arbitrary” in the sense of de Saussure: “unmotivated” like most language signs are.

Just as often, the inventor’s new expression does not catch on, however, and a loanword is preferred for some obscure reason: the inventor’s “world view” is not accepted by the rest of the same language community! When the ‘helicopter’ was introduced to Western Europe, a number of Dutchmen strongly advocated a good three-syllable Dutch word for it, meaning: ‘turner of (windmill) sails’: [ventəlvik]. It was a lovely and melodious Dutch word of simple morphemic construction, but . . . the Dutch call the thing “helicopter”: four syllables, with an awkward consonant cluster in the middle! Sometimes we find the two expressions side by side, native and loanword, and it is entirely unpredictable which will remain. In Yoruba we find, by the side of the loanword “radio,” the fairly standardized expression “a sọrọ mágbèsi”: ‘he who speaks (but) hears no answer.’ *If such expressions get settled, in a few years’ time nobody will think of the original concepts expressed in them any more than English people do in compounds and polymorphemic words such as “ear-ring,” “fountain-pen,” “sweat-er,” “pull-over,” etc. The expressions by then will have nothing to do with anybody’s world view.* Yoruba phrases such as “ilé iwě,” ‘house (of) book(s) for ‘school’ have already gone this way; they indicate *one* concept, they function as *one* (polymorphemic) word which can even hardly be called a compound any longer: “iléwé.” Indeed, as Shirō Hattori puts it (loc. cit): “there are sememes which are superposed over a phrase,” and “the sememe of a bound morpheme is usually not so clear as that of a simple word.” My last few examples show that these two statements are not to be disconnected: the second refers to a fact which usually develops out of the first—has often done so, too, as far as we can tell from historical linguistics.

We see that all we can say in general so far regarding the relation between language and world view concerns the *quantity* of the *vocabulary*. In respect of this quantity, the relation is one-sided: if a language-community does not distinguish, i.e. *does not know, certain concepts*, then their language also has *no words* for such concepts,<sup>2</sup> but if there are *no words* in a language for certain concepts, this does *not* mean that the speakers of that language do not know and *cannot distinguish the concepts* and that they cannot if necessary refer to them by a periphrasis or a metaphor *in their own language*. W.H. Goodenough comes to the same conclusion on structural grounds, see his “Com-

<sup>2</sup> This is very generally speaking. For counter cases see p. 534 below.



ponential Analysis and the Study of Meaning," *Language* 32, 1956, 209.

#### 4. Language determined by world view?

The opposite idea, that a people's world view should determine the morphemic make-up of its language, at first sight looks much more acceptable. As for the *individual coining* of new words there is even a great deal of truth in it, as we have shown just now ("kọ nọmbà"). It is interesting to see how the two opposite ideas are defended by adducing exactly the same sort of morphemic data. The American Benjamin Lee Whorf holds Weisgerber's point of view, but again and again leads his readers *from* language differences *to* conclusions on differences in mentality between so-called "primitive" peoples and modern, so-called "civilized" man.

Whorf does realize that the idea as if those "primitive" peoples should have a less rational mind, thinking less deeply or logically than we do, is outdated. Linguistic research of the last decades has proved that the concept of "primitive language" is false, and that "primitive peoples" know just as subtle distinctions as we do. Whorf even holds that the European languages are "far outdistanced" in this respect by many American-Indian and African languages, which in their morphemic make-up "abound in finely wrought, beautifully logical discriminations about causation, action, result, dynamic or energetic quality, directness of experience, etc., all matters of the function of thinking, indeed the quintessence of the rational" (*Language, Thought, and Reality*, New York 1956, 80).

Yet Whorf tries—like others—to prove with the results of linguistic research that those peoples do have a *different* world view from ours. The language of the Hopi Indians in America is one of his famous examples. Hopi, he says, "contains no reference to "time," either explicit or implicit." "Hence," Whorf concludes, "I find it *gratuitous to assume that Hopi thinking contains any such notion* as the supposed intuitively felt flowing of "time," or that the intuition of a Hopi gives him this as one of its data." (op. cit. 58, it. BS).

Whorf does not seem to be aware of the one-sidedness of the relation between concept and word or phrase as regards their presence in a language community, and so we even read: "Thus, the Hopi language conceals a *Metaphysics*, such as our so-called naive view of space and time does, or as the relativity theory does; yet it is a different metaphysics from either" (loc. cit.). In several papers Whorf sets out to outline this "metaphysics" at the hand of his analysis of the language concerned.

#### 5. Pitfalls in the method of investigation

The methods which have so far been applied, also by Whorf, to *investigate* the relationship between language and world view, present many pitfalls, and few are the investigators that have not fallen into one or another of these at one time or another.

a. *The meaning of morphemes*

For one thing, the fact that no two word meanings ("sememes") in different languages correspond exactly, presents a great difficulty in comparing the exact sememic content of "equivalent" utterances of two languages—and that is after all what the "language—world view investigators" try to do. They try to overcome this difficulty by rendering the foreign expression in English by a literal and detailed description of the content of its every single morpheme, putting into words the numerous subtle aspects and shades of meaning and the connotations which these morphemes are supposed to contribute, *as far as they strike a speaker of English*. This analytic description is then compared with the unanalysed meaning of the unanalysed corresponding English expression, which, naturally, does not contain any peculiar features to an Englishman (cf. the example of a comparison between Dutch and Hebrew below).

In all this, two things are overlooked: 1) in *language*, morpheme meanings and connotations prove to be of a different nature from word meanings; 2) there is no proof that morpheme meanings function actively in *speech*, on the contrary.

1) The content of a lexical expression—from word to phrase—cannot be evaluated by putting into *words* all its *aspects* of meaning and its *connotations* (whether expressed in special morphemic components or not). For the English words of such a description have all kinds of additional values of their own, not to be found in the meaning of the original foreign expression. A *morpheme* functions far more subtly than a *word* (cf. Shirô Hattori quoted above, p. 528), and an *aspect* of meaning than a full *word meaning*. What is just a shade or a connotation in the meaning of one word gains enormously in weight as soon as it is given "a word of its own."

A word functions as a unit, as a whole; a *fli-er* is different from "a man who flies"; a *sweat-er* is rarely "a sweating person" or "a thing to sweat in"; *aw-ful* is not "full of awe" and an *ear-ring* is not "a ring for the ear"; a *house-door* is not any door in a house, and a *straw-berry* grown in a hothouse without straw is still called a *strawberry*. Although to a foreigner who wants to learn the language this kind of explicit wording of morpheme meanings is naturally a mnemonic help, to the native speaker each of these is a one-word *unit* with a meaning of its own, not identical with that of the sum of its morphemes and their connotations.

This is why Hoiijer's comparison of the Navaho Indians' religious curing activities and their fashion of speaking (*Language in Culture*, 100 ff.) does not prove anything in the way of a relationship between the two: it is based too much on this explicit-making of morpheme meanings by a foreigner, of which meanings there is no proof that they are present at all in the minds of the native speakers as they use the terms analyzed.

2) That those meanings are present is the basic assumption all "language—world-view" advocates start from. To my mind this basic assumption is their basic mistake. For we know introspectively from our own experience in language use that morphemic

meanings are very subdued within a word meaning and more often than not completely absent—see the examples above. Occasionally, too, we get this confirmed from outside. For instance, by consistent misspellings; such as “earring” with one *r*, when obviously the morphemic meaning of “ring” is lost completely and “earring” is put on a level with “bunting,” “bedding,” etc. Or it may come out in talking about a word.

Quite recently I thus had a most convincing proof of the complete absence of the meanings of the morphemes that form the Dutch word for ‘eternity,’ in the mind of a university-educated Dutch speaker, although the word in question is a perfectly straightforward construction. It was in a discussion on the ancient Hebrew mind, which was said to have been incapable of abstract thinking. To support his view the speaker, a theologian, mentioned the Hebrew word for ‘eternity,’ which he said “really” meant “a very long time.” This proved, according to him, that the Hebrew could not imagine ‘eternity’ as an abstract concept the way *we* could: contrary to Hebrew, Dutch had got a special “abstract” word for this concept, he remarked, a word which did not “really” indicate something more “concrete.”

Now the Dutch word for ‘eternity’ is “*eeuwigheid*,” and contains the morphemes “*eeuw*” (‘century’), “*-ig*” (‘resembling,’ approx. English—‘-ish’), and “*-heid*” (‘-ness’ as in “goodness”). So if anything the Dutch word is more “concrete” than the Hebrew one, mentioning “something like a century” over against Hebrew “a very long time.” But it was obvious that the meaning of the Dutch morphemes had never occurred to my theologian spokesman so far, and that no thought of ‘century’ had ever crossed his mind in hearing or using the Dutch word “*eeuwigheid*.” A clearer proof than this conversation is hardly possible to show that a word functions as a *whole* and that its meaning cannot be split up into those of its morphemes; that, moreover, any so-called “basic meaning” does not function at all either when it is excluded by the context.

With regard to Hebrew it is especially theologians who, starting from the said basic assumption, indulge in extensive philosophizing. “Die dynamische Denkart der Hebräer verraten besonders ihre Verben, deren *Grundbedeutung* immer eine Bewegung oder Wirksamkeit ausdrückt” says Thorleif Boman in his book *Das Hebräische Denken im Vergleich mit dem Griechischen*,<sup>4</sup> 1965, p. 19. He continues: “Wenn (in Hebrew, BS) ein Verbum einen Stillstand wie Sitzen oder Liegen ausdrücken soll, geschieht es durch ein Verbum, das auch eine Bewegung bezeichnen kann. Die Frage ist nun, wie das logisch-psychologisch möglich ist.” And when the writer has mentioned a couple of possible “explanations” for this problem, there still remains the question “wie das im Zusammenhang mit der hebräischen Denkweise zu erklären ist” (loc. cit.).

The answer is, of course, that “logisch-psychologisch” almost anything is possible in language, as language is not and cannot be a logically or psychologically “regular” structure—on the contrary. Hence nothing in its structure has to be “explained” in connection with the mind or “Denkweise” of its speakers. The weakness of this kind of approach to Hebrew has been sharply defined by James Barr as a lack of investigation of other languages for comparison (*The Semantics of Biblical Language*, 1961, *passim*).

Indeed, if the Scandinavian just quoted had looked at English, a language closely related to his own, he would there have found the same as in Hebrew with regard to similar verbs. The *Concise Oxford Dictionary*,<sup>5</sup> 1964, defines "stand" as "have or take or maintain upright position" (as in *stand up*), or as "move to & remain in specified position" (as in *stand back*, *stand aside*); it defines "sit" as "take or be in position in which . . ." etc. (cf. "sit down!" and "he gave the talk sitting down"); cf. also: "lie down!" and "it is not easy to drink lying down." But naturally these peculiarities of modern English could also be attributed to a "dynamische Denkart." Would it be the same "Denkart" as the ancient Hebrews had, one wonders?

In the book *Psycholinguistics: A Survey of Theory and Research Problems* (Baltimore, 1954), therefore, some writers rightly ridicule this "world-view" kind of language analysis. They say: "Indeed, if we were to translate the English statement *a/drip(p) /ing spring* into its most literal and abstract terms, we would come out with something like "An instance of the general class, characterized by liquid falling in small, natural segments, process on-going, eruption of water," and most speakers of English would fail to recognize their own 'world view'!" (D. E. Walker, J. J. Jenkins, Th. A. Sebeok, "Language, Cognition, and Culture," op. cit. 194, 195).

Indeed the "results" in this field have so far been highly unreliable. To improve them, it would not only be necessary to draw in more languages for comparison, as James Barr remarked (see above), but also more aspects of language use would need to be examined. For the investigator is here in an interdisciplinary area, the borderline area in between linguistics, anthropology, psychology and sociology proper. This is rightly pointed out by Ethel M. Albert in her paper on "Culture Patterning of Speech Behavior" in Burundi, when she says: "... not until more is known of each of the many aspects of speech behavior can specific linkages among the research results of different specializations be reliably established, e.g., between the lexicon and morphology of a language and the characteristics of the world-view of its speakers" (*The Ethnography of Communication*, eds. J. J. Gumperz and Dell Hymes, special publ. *American Anthropologist* 66, 1964, 54).

#### b. *The meaning of old metaphors*

In the paper quoted above (195), Walker, Jenkins and Sebeok mention in passing another draw-back of the over-detailed and explicit-making way of "translating" described just now, viz. "that it distorts the significance of metaphors...which have lost their literal significance entirely." By a literal and detailed translation, such metaphors are put before us in all their original strength and freshness, and from them conclusions are drawn regarding the world view of the speakers; whereas the latter themselves have long ceased to apply that original meaning and rather use the metaphors concerned as *homonyms* of the forms-with-the-original-meanings, see the history of Yoruba "kọ ọmbà" above.

Leaving aside for the moment the question which of two uses of a word is the metaphor—an unsolvable problem in a purely synchronic study which is not at the same time carried out statistically—and *assuming* for the following example that in both languages the *body part* is concerned in the *original* meaning, we may ask: Does the Englishman “think,” a human ‘foot’ in his expression “the foot of the mountain” and does this expression prove that he views a mountain as a being standing up? Is therefore his picture of the world one of more action, less restful than that of the Yoruba who speaks of the “buttocks of the mountain” and who therefore with as much proof may be said to “view” a mountain as a being sitting down? Many unwarranted conclusions could be drawn by the “language-worldview advocates” on the basis of this difference, e. g., as to the relative amount of laziness in the national character of the different peoples. They could certainly be illustrated by other experiences. Much romantic imagination about similar differences has indeed been put into words and published; it has a strong appeal to the public at large, too; but: *where is the proof?* The Dutch speak of the “eye of a needle,” the “nose of a shoe,” the “ear of a cup,” the “tongue in an organ-pipe,” the “teeth of a cog-wheel,” the “neck of a bottle,” the “mouth of a river,” the “lip of a card in a file” (=the projecting tab), the “beard of a key,” etc. etc. Surely the Dutch must have an animistic world view, if they consider so many things around them as living beings like that? Only—the Dutch just do *not* have an animistic world view!

### c. *The meaning of grammatical categories*

Finally, an example from grammar—for grammatical structure, too, is sometimes supposed to reflect the world view. Does the fact that English does not express ‘time’ unambiguously in its verb forms, indicate a vagueness in the conception of the ‘time of the action’ among the English? Cf.: (“What are you doing?”)—“I *am writing* to Mary” (*present*); “I *am writing* to her to-night” (*future*); “You haven’t brought it? And here I *am writing* to you specially to ask for it!” (*past*).

Compared to many Bantu languages with their strict rules for the use of the tenses, English is really “sloppy” in this respect. But who ever has spent a week in Bantu Africa knows that the Bantu’s strict observance of tense rules has nothing to do with his observance of time, and that it is the British who are the more precise in that respect. “Die Psychologie der Tempora” (Thorleif Boman, op. cit. 125) does not exist.

## 6. Relationship—to what extent?

When at this point we repeat our question regarding the relation between language and world view, we find ourselves still in the same position: any relationship found so far concerns the *quantity* of the vocabulary. The negative aspect of this relationship was dealt with on p. 528 above; as a positive corollary we might now want to state that *if people have a word* for a certain concept, they must naturally *know the concept*: the *things* and *events* that are *named* in a language must inevitably form part of a people’s

life and culture and hence of their world view. This would be a direct consequence of the nature of language as "a whole of conventional auditive signs," for a sign refers to *something*: if people have an expression—any expression—to refer to 'vaccination,' it means that they are familiar with this medical treatment.

But even this conclusion is not always warranted. For a language has many "empty" signs. When a Yoruba newly married couple receive good wishes in which the word "sleeping-mat" occurs, this may tell us something about their bedroom furniture, or . . . about that of their forefathers only. The couple may have replaced the sleepingmat by a bed, in which case the word to them has become an empty sign, whose only function is to help constitute a conventional good wish for a happy marriage. If a baby is called "grandfather has come back," this tells us something about the traditional belief . . . which may no longer be that of the baby's parents: the expression may have become a conventional proper name. If African women are said to "pound yam," and to "rub beans," this tells us something about their ways of crushing yams and beans, but the "pounding" and "rubbing" may soon be done electrically and be no real pounding or rubbing any longer—even though the expressions themselves will probably remain the same.

In other words, there simply is no such thing as a regular one-to-one correlation between the *presence* of a word or expression in a language and the *presence*, in the speakers' world view, of what that word or expression indicates. Just as, earlier in this paper, it was concluded that there is no regular correlation between the *absence* of a word or expression in a language and the *absence*, in the speakers' world view, of what such a word or expression could have indicated. If people lack a word for a certain concept, they may nevertheless have the concept; if they possess a word for a concept, they may nevertheless have lost the concept, and the word or expression may have become a mere "how" of reference. Both in grammar and idiom this happens continually, as our material shows; on closer investigation the "how" of an expression often turns out to be the "what" of an earlier stage of the language. As such it may give us an insight into the *history* of the speakers' world view (cf. "kọ nọmbà" above). But we never can tell *when* the "what" of a linguistic reference has turned into a mere "how"—synchronically this may even differ from speaker to speaker. And we must not do people an injustice by attributing to their "view" of a thing or event what to them is merely a traditional and conventional *sign* to refer to it.

# SOME SUGGESTIONS TOWARDS A ROMANISATION OF MODERN TIBETAN (LHASA DIALECT)

WALTER SIMON

Tibetan being one of the vast range of languages in which Professor Hattori has taken an active interest,<sup>1</sup> it is hoped that the present article may be acceptable to him as a small tribute to his great scholarship.

## I

In recent years we have witnessed important research on Tibetan phonetics in continuation of the pioneer work by Professor Y. R. CHAO.<sup>2</sup> Of the authors in question Dr. E. RICHTER<sup>3</sup> and Mr. R. K. SPRIGG<sup>4</sup> have used I.P.A., Professor KUN CHANG (with Miss B. SHEFTS)<sup>5</sup> and the late Professor G. N. ROERICH<sup>6</sup> have adopted a modified Roman alphabet. As is evident from its title, the present paper likewise uses the Latin script. Its special concern is sketching a simple "frame work" of transcription which allows of greater or lesser phonetic accuracy by the addition (or omission) of certain diacritical signs and by various other "conventions," all of which are designed to achieve an economy of marking. These include:

(1) *Leaving certain phonetic features unmarked*

- a) Vowels when left unmarked are thereby understood as being *short* and *open*.

<sup>1</sup> See the acknowledgement at the end of the chapter on Tibetan in *Sekai-gengo-gaisetsu* (Vol. 2, p. 1000).

<sup>2</sup> See *Love Songs of the Sixth Dalailama*, translated . . . by YU DAWCHYUAN and transcribed by Dr. JAW YUANRENN (Y. R. CHAO). Peiping, 1930. (Academia Sinica. The National Research Institute of History and Philology. Monographs. Series A, No. 5).

<sup>3</sup> E. RICHTER, *Grundlagen der Phonetik des Lhasa-Dialektes*, Berlin, Akademie-Verlag, 1964. (*Schriften zur Phonetik, Sprachwissenschaft und Kommunikationsforschung*, No. 8)

<sup>4</sup> R. K. SPRIGG, "The tonal system of Tibetan (Lhasa-Dialect) and the nominal phrase," *BSOAS*, 17 (1955) pp. 133-53.

....., "Verbal Phrases in Lhasa-Tibetan I-III," *BSOAS*, 16, 1954, pp. 134-56, 320-50 and 566-91.

....., "Vowel harmony in Lhasa Tibetan," *BSOAS*, 24 (1961), pp. 116-38.

<sup>5</sup> KUN CHANG and BETTY SHEFTS, *A Manual of spoken Tibetan (Lhasa Dialect)*, Seattle, University of Washington Press, 1964.

....., "Spoken Tibetan Morphophonemics: p," *Language*, 43 (1967), pp. 512-525. (See in particular, p. 512, note 1.)

<sup>6</sup> G. N. ROERICH and TSE-TRUNG LOPSANG PHUNTSHOK, *Textbook of colloquial Tibetan (Dialect of Central Tibet)*. The Government of West Bengal, Education Department, Education Bureau, 1957.

- b) Voiced plosives and affricates when left unmarked are thereby understood as being *partially voiced*.
  - c) Voiceless plosives and affricates when left unmarked are understood as being *voiceless and aspirated*.
  - d) All initials when left unmarked are understood to indicate that the word is spoken at *high pitch*.
- (2) *Assigning additional functions to commonly used diacritical signs*
- a) The *dash*, commonly written above vowels to indicate their length, can be written above initials to indicate *high pitch*, which, as explained under (1), d, is, however, usually understood.
  - b) The *zero-sign*, commonly used underneath initial voiced consonants to indicate partial voicedness (normally understood, as explained under (1), b) can be used underneath initial voiceless plosives (understood as aspirates, see below under II, (1), A), to indicate *absence of aspiration*.
  - c) The *semicircle* (open on the right side) commonly used (e.g. in Romance linguistics) underneath vowels to indicate openness, can be used underneath initial voiced plosives or affricates to indicate *full voicedness*.
- (3) *Allowing digraphs to represent single sounds and single letters to represent clusters*
- a) The digraph *ng* is suggested to represent the velar nasal, and the digraph *ny* to represent the palatal nasal.
  - b) The digraphs *gy-* and *ky-* are suggested to indicate palatal plosives.
  - c) The digraphs *dr-* and *tr-* are suggested to indicate the retroflex (supradental) plosives, with *jr-* and *cr-* suggested for the retroflex (supradental) affricates.
  - d) The digraph *sh-* is suggested to represent the dental-alveolar-predorsal fricative written  $\varsigma$  in I.P.A., while the two corresponding affricates are represented by the single letters *j-* and *c-*.<sup>7</sup>
  - e) The digraph *hr-* is suggested to represent the alveolar fricative corresponding to *sh-* in English (see below II, (1), B).

## II

To illustrate in more detail the present system of romanisation I shall list below the suggested representation of the actually occurring sounds.

### (1) *Initial Consonants*

#### A. *Plosives and Affricates*

① b/p	② d/t	③ dr/tr	④ dz/ts	⑤ g/k
⑥ gy/ky	⑦ j/c	⑧ jr/cr	⑨ q	

<sup>7</sup> Note that these sounds occur also in Chinese (Peking Dialect), but only before *i* and *ü*. In the new Chinese romanisation (*Hanyu-Pinyin-Fang'an*) they are written *j*, *c* and *x*. English students will easily acquire the articulation of  $\varsigma$  when presented with such ghost words as *chyeap* and *chyeek* and hearing them pronounced  $\text{t}\varsigma\text{:p}$  and  $\text{t}\varsigma\text{:k}$ . To acquire  $\varsigma$  they should be advised first to lengthen the friction period of  $\text{t}\varsigma\text{-}$ .



Absence and presence of aspiration<sup>8</sup> are to be observed in the above 8 pairs of contrasted initials, to which *q* (No. 9), representing the glottal stop,<sup>9</sup> has been added as a further initial plosive. Of the first 8 pairs 1-3 and 5-6 are plosives, the remainder affricates.

The appended *r* (pairs 3 and 8) denotes retroflex (supradental), the appended *y* (pair 6) palatal pronunciation. Pair 7 (see above, I, (3), d) has dental-alveolar-predorsal articulation, the corresponding voiceless fricative being represented by *sh* (see below, B, No. 1).

As stated above (I, (1), b), the first constituent of the 8 pairs is to be understood as partially voiced, the subscribed zero of I.P.A. being dispensed with. Deviating from I.P.A. a semicircle (b, d, etc.) is suggested to indicate full voicedness (cp. above, I, (2), c). To denote absence of the aspiration, which is to be understood in the case of the second constituent of the 8 pairs, it is suggested (cp. above, I, (2), b) to use a subscribed zero, e.g. *kā* "pillar" (W[ritten] T[ibetan]: *ka-ba*), or *kṡ* "leather" (W.T.: *ko-ba*).

#### B. Fricatives, Nasals, and other Continuants

① s/sh	② r/hr	③ m/mh	④ n	⑤ ng/hng
⑥ ny/hny	⑦ l/lh	⑧ h/fi	⑨ w/y	

Of the fricatives *s*- (No. 1, as in English) has been paired with *sh*- (*not* as in English, but representing the dental-alveolar-predorsal fricative belonging with the affricates *j*- and *c*-, I.P.A. *ç*, see above I, (1), c and note 7). The alveolar-palatal fricative corresponding to English *sh*- (I.P.A. *ʃ*) is the second constituent of pair 2. The rendering of this extremely rare initial by *hr*- is a transliteration of the Tibetan graph, indicative of its voicelessness and its place of articulation. Note that *r*, the first constituent of pair 2 is not rolled (I.P.A. *ɽ* [SPRIGG] or *ɽ* [RICHTER]).

In the case of nasals Nos. 3, 5, and 6 also aspirated variants can be observed. The same holds good of *l* (No. 7). No. 8, the so-called voiced *h* (I.P.A. *ɦ*), is a voiced laryngeal fricative, represented by *ṛ* in the Tibetan script.

The semi-vowels *w*- and *y*- (pair 9) complete the list of initials.

#### (2) Vowels and Diphthongs

##### A. Vowels

① a/ʌ	② e/i	③ o/u	④ ɔ̃/ü	⑤ ə
-------	-------	-------	--------	-----

As stated above, unmarked vowels are understood to be open and short (see I, (1), a).

<sup>8</sup> It may be noted that aspiration is weaker in the case of words with low pitch initial and that the process of aspiration has apparently not yet affected all words which, from a historical point of view, might be expected to have become aspirated.

<sup>9</sup> The rendering of the glottal stop by *q* has been taken over from K.M.A. Barnett's transcription of Cantonese. (See his "A Transcription of Cantonese" in *BSOAS*, 13 (1949-50), pp. 725-45.

Length is to be indicated by a dash ( $\bar{a}$ , etc.), nasalisation by a tilde ( $\tilde{a}$ , etc.). A sub-scripted dot, or a semicircle (see I, (2), c) are suggested to indicate closed or open vowels ( $\epsilon, \epsilon$ , etc.) To avoid three layers of diacritical signs in the case of *long* nasalized  $\bar{o}$  and  $\bar{u}$  these may be written as  $\acute{o}$  and  $\acute{u}$  (used in the Hungarian alphabet to indicate the closed variety of  $\bar{o}$  and  $\bar{u}$ ).

Other possible alternatives are  $\text{æ}$  or  $\text{ɛ}$  for open  $e$ ,  $\text{ɔ}$  for open  $o$ ,  $\phi$  and  $\text{œ}$  for closed and open  $\bar{o}$ . Other vowel qualities might be expressed by using capital letters.<sup>10</sup>

The first 8 vowels have been paired off so as to symbolize at the same time the vowel changes  $a > \Lambda$ ,  $e > i$ ,  $o > u$ , and  $\bar{o} > \bar{u}$ , occurring, e.g., in verb bases when followed by the suffix *gi*: *jro* "to go," *jru-gi yī* "will go," etc. These vowel changes have been studied in some detail by R. K. SPRIGG, who refers to them as cases of "vocalic harmony," and K. CHANG and B. SHEFTS, who speak of "vowel-height alternations."  $\Lambda$ , the second constituent of pair 1, represents a high back vowel,  $\text{ə}$ , No. 5, a medium central vowel.

#### B. Diphthongs

Diphthongs other than those formed with the initial semi-vowels  $w$ - and  $y$ - (cp. above II, (1) B) are of rare occurrence, but in any case do not present any special difficulty in notation: *au*, *eu*, etc.

#### (3) Final Consonants

① m	② n	③ ng	④ b
⑤ d	⑥ g	⑦ q	⑧ r

The above list of final consonants is not only much shorter than a comparison with Written Tibetan would lead us to expect but in practice subject to further reduction in so far as the nasals No. 2 and 3 are liable to be absorbed in the process of nasalizing the preceding vowel, arising from their presence, or to disappear either as the result of umlaut caused by it (No. 5), or in the course of compensatory vowel lengthening (Nos. 6 and 8), or finally to be substituted by the glottal stop *q* (No. 6). It would fall outside the scope of this paper to provide illustrative examples for the above phonetic developments, as it is concerned merely with the notation of the sounds as actually heard. As far as the symbols themselves are concerned they are self-explanatory but for the fact that the plosives Nos. 4-6 are voiceless or partially voiced, but it would be cumbersome to use a zero in these cases.

### III

#### Tones and Stress

##### (1) Pitch

High and low pitch can be observed. Of these, as a rule, only *low pitch* need be

<sup>10</sup> This latter device has recently been used by K. CHANG and B. SHEFTS in their article in *Language* quoted in note 5.

indicated by *underlining the initial*. Unstressed words are normally said in a low pitch. This is the rule in the case of suffixes and therefore need not be indicated. As stated above (I, (2), a), *high pitch*, though normally understood, can be marked by a *dash* above the initial.

(2) *Tone-movement*

Level, rising and falling movements, as well as combinations of the latter two may have to be notated. It is suggested that level tone-movement remains unindicated. For the other tone-movements the use of accents is obvious: an acute *ˊ* indicates rising, a grave *ˋ* falling, a circumflex *ˆ* rising-falling, and an inverted circumflex *ˋ* falling-rising movements.

(3) *Stress*

A vertical stress *ˈ* indicates word stress, a double vertical stress *ˈˈ* can be used to indicate sentence stress. Unstressed words may be indicated by a wavy line *˜*.

#### IV

As a specimen of the suggested romanisation I append a list of the numerals 1-20 (based on the transcription in the Manual by K. CHANG and B. SHEFTS, pp. 90-91):—

jig nyī sum *ḡ*hi nga *ḡ*rū dū *ḡ*yē gu ju jugjī jungḡyī jogsom jūbshi jōnga  
jujrū jubdū (jūbdū) jobḡyē jurgu (jūgu) nyishu (nyishu tāba).

UNIVERSITY OF LONDON, ENGLAND

## TWO ALTAIC ETYMOLOGIES

DENIS SINOR

The etymologies here proposed do not wish to prove any preconceived theory. They are offered here as a token of friendship, esteem, and respect to Professor Hattori and as a modest contribution to the study of Uralic and Altaic vocabulary.

### TUSU "usefulness, advantage, profit"

There is a word *tusa* "usefulness, advantage, profit," well known in Classical Mongol and attested in a number of contemporary Mongol dialects, e.g. Mod. Lit.<sup>1</sup> *tus*, Kalm. Lit.<sup>2</sup> *tus*, Kalm. R.<sup>3</sup> *tus*, Bur. *tuha*,<sup>4</sup> Monguor<sup>5</sup> *dysā*, Ordos<sup>6</sup> *dysa*, Khalkha<sup>7</sup> *t'ussu*, Dahur<sup>8</sup> *tuase*. In Russian dictionaries the meaning given is "польза," in French the word is translated "utilité, avantage, profit," etc.

*Tusa* is not recorded in a number of Middle-Mongol vocabularies, but I do not attach any particular importance to this absence. The word *tusa* is well attested in Middle-Mongol. It can be found in the *Secret History of the Mongols* and in a number of other texts. Its absence from the vocabularies is probably due to the abstractness of its meaning which makes it difficult to incorporate the word in dictionaries arranged in conceptual categories. The word is current in Middle-Mongol texts, it can be found in Arghun's letter to Philip the Fair (1289),<sup>9</sup> in the Bodhicāryavatāra,<sup>10</sup> the Sino-Mongol inscription of 1335,<sup>11</sup> in the Ming documents<sup>12</sup> to mention but a few. It appears three

<sup>1</sup> A. Лувсандэндэв: *Монгол орсо толь*, (Москва, 1957).

<sup>2</sup> И.К. Илишкин: *Русско-калмыцкий словарь*, (Москва, 1964).

<sup>3</sup> G.J. Ramstedt: *Kalmückisches Wörterbuch*, (Helsinki, 1935).

<sup>4</sup> К.М. Черемисов: *Бурят-монгольско-русский словарь*, (Москва, 1951).

<sup>5</sup> A. de Smedt—A. Mostaert: *Dictionnaire monguor-français*, (Pei-p'ing, 1933).

<sup>6</sup> Antoine Mostaert: *Dictionnaire ordos*, (Peking, 1941).

<sup>7</sup> Nikolaus Poppe: *Khalkha-mongolische Grammatik*, (Wiesbaden, 1951), p. 185.

<sup>8</sup> Samuel E. Martin: *Dagur Mongolian grammar, texts and lexicon*, (*Uralic and Altaic Series* 4, Bloomington, 1961), p. 227.

<sup>9</sup> Antoine Mostaert—Francis Woodman Cleaves: *Les Lettres de 1289 et 1305 des ilkhan Arghun et Öljaitü à Philippe le Bel*, (Harvard Yenching Institute, *Scripta Mongolica I*, Cambridge, Mass., 1962), p. 94. The spelling in Classical Mongol is obviously *tus-a*.

<sup>10</sup> Francis Woodman Cleaves: "The Bodistw-a čari-a awatar-un tayilbur of 1312 by Čosgi Odsir," *HJAS*. 17 (1954), 1-129, p. 68.

<sup>11</sup> Francis Woodman Cleaves: "The Sino-Mongolian inscription of 1335 in memory of Chang Ying-jui," *HJAS*. 13 (1950), 1-131, p. 91.

<sup>12</sup> Erich Haenisch: "Sino-mongolische Dokumente vom Ende des 14. Jahrhunderts," *Abhandlungen der Deutschen Ak. d. Wiss. zu Berlin*, Jahrgang 1950, Nr. 4 (Berlin 1952), p. 23.

times on the last page (13v) of the Mongol Alexander romance.<sup>13</sup> It will be remembered that this rather confusedly written page, which contains a Turkic phrase, establishes a clear link with Turkic-speaking elements of the region. The manuscript, found in Turfan, contains also a Buddhist poem in Mongol in which the word *tusa* can again be found.<sup>14</sup>

Among the languages used in Eastern Turkestan, Mongol is not the only one to have *tusa*. The Turfan-Turkic texts have it in the form *tusu*. Most of the time it occurs in the compound *asīγ* (or *asarγ*) *tusu* "profit, advantage." W. Bang and A. von Gabain<sup>15</sup> equated *tusu* with Mongol *tusa* and Yakut *tusa*. Kāšγarī, Ibn Muhanna and the Oghuz legend<sup>16</sup> have *tusu*, the Sino-Uighur vocabulary of the Ming *tüsu*.<sup>17</sup> There is what I think a rather doubtful *tusum* reading (*tusu* + possessive *-m*) in the Runic inscription of Kyzyl Chira.<sup>18</sup> Kipchak Middle-Turkic does not seem to have known the word, nor can I find it in the modern dialects of Eastern Turkestan. The Yellow Uighurs of Kansu have *tusa* "исцеление"<sup>19</sup> but I am not entirely certain whether this meaning of "recovery, healing" does not rule out an equation. Malov did not think so, for he listed Khakass *tuza* "польза" as a correspondence. The word is common in the Altai-Turkic languages. Radloff found *tuza* in Altai, Lebed, Shor, Sagai, Koibal and Kachinsk; modern Oirot<sup>20</sup> has *tuza*, Tuvin<sup>21</sup> *duza*, and even the compound *ažik-duza* "значение, польза, выгода." Radloff, who had no access to the Turfan-Turkic texts, felt the isolation of these Altai-Turkic forms within the Common-Turkic vocabulary and considered them Mongol loans.

For Yakut Böhtlingk<sup>22</sup> and Pekarskij<sup>23</sup> list *tusa* which both of them equate with Mongol (and Manchu) *tusa*. John R. Krueger<sup>24</sup> has *tuha* "use, profit, benefit." This is probably a Buriat loan word. Neither *tusa* nor *tuha* is listed by Stanislaw Kaluziński<sup>25</sup> among the Mongol loan words of Yakut, but this is probably a simple omission.

<sup>13</sup> I quote the latest edition, by Francis Woodman Cleaves: "An early Mongolian version of the Alexander Romance," *HJAS*, 22 (1959), 1-99, p. 45.

<sup>14</sup> Nikolaus Poppe: "Ein mongolisches Gedicht aus den Turfan-Funden," *Central Asiatic Journal* V (1964), 257-294, p. 264.

<sup>15</sup> "Türkische Turfan-Texte," *SPAW*, 1929, 241-268, p. 260.

<sup>16</sup> W. Bang—G. R. Rachmati: "Die Legende von Oghuz qaghan," *SPAW*, 1932, 683-724, p. 694.

<sup>17</sup> Louis Ligeti: "Un vocabulaire sino-ouigour des Ming," *Acta Orientalia Hung*, XIX (1966), 117-199, 257-316, p. 270.

<sup>18</sup> С.Е. Малов: *Енисейская письменность тюрков*, (Москва-Ленинград, 1952), p. 80. Important corrections by А.М. Щербак: "Памятники рунического письма енисейских тюрков," *Народы Азии и Африки* 1964, 4, 140-151, pp. 142-143.

<sup>19</sup> С.Е. Малов: *Язык желтых уйгуров, словарь и грамматика*, (Алма-Ата, 1957).

<sup>20</sup> Н.А. Баскаков—Т.М. Тошакоева: *Ойротско-русский словарь*, (Москва, 1947).

<sup>21</sup> А.А. Пальмбах: *Тувинско-русский словарь*, (Москва, 1955).

<sup>22</sup> *Über die Sprache der Jakuten*, (St. Petersburg 1851, reprint: *Uralic and Altaic Series* 35, Bloomington, 1964), p. 110.

<sup>23</sup> Э.К. Пекарский: *Словарь якутского языка*, I-III, (reprint: n. p. 1958).

<sup>24</sup> *Yakut manual*, (*Indiana University Uralic and Altaic Series*, 21, Bloomington, 1962), p. 266.

<sup>25</sup> *Mongolische Elemente in der jakutischen Sprache*, (Warszawa, 1961).

The final vowel of *tusa*~*tusu* raises a small problem. On the basis of Monguor length Poppe<sup>26</sup> postulates a long second vowel: \**tusā*. Gerhard Doerfer<sup>27</sup> contradicts him on the strength of the Old-Turkic *tusu* and prefers to postulate an Old-Mongol \**tuso*. However it may be, *tusu* and *tusa* cannot be separated.

The use of *tusu* is very much circumscribed in space as well as in time. The variant with a final -*u* occurs only in the so-called Uighur texts and in a very few Middle-Turkic documents. The use of the variant with a final -*a* is more widespread but still very much limited. Only the Altai-Turkic dialects and Yakut have it and these forms are universally regarded as borrowings from Mongol. In view of the great number of other Mongol borrowings in these languages, this fact may be taken for granted.

The word is known in Tunguz. Manchu has *tusa* and the Manchu-Mongol parallel was noticed by Böhtlingk, Pekarskij and G.D. Sanzheev.<sup>28</sup> G.M. Vasilevich<sup>29</sup> equates Evenki *tusaka* and *tusanan* "толк, смысл" with Manchu-Mongol *tusa*. E.I. Titov<sup>30</sup> listed *tusanan* and equated it with Manchu and Buriat forms. Even<sup>31</sup> has *tuha* "польза." The word does not seem to exist in Nanai and related dialects.

From Turkic, Mongol and Tunguz dialects I have assembled a fair number of occurrences of the word *tusa*~*tusu*. How should we interpret them? It would be tempting to declare *tusa* an Altaic word, yet I think that such a judgment would be very hasty indeed. Only in Mongol is the word omnipresent and well attested from the earliest texts to the contemporary dialects. In Turkic, however, with the possible exception of the few *tusu* forms, the word was clearly borrowed from Mongol. I think that a fairly wide geographical distribution is a prerequisite for a word to be considered Common-Turkic. This is not the case with *tusu*. The absence of this word from the living languages of Eastern Turkestan, where its presence in early texts is so well documented, would suggest a literary rather than a colloquial use. Moreover most of the occurrences are in the compound *asīγ tusu*.

Compounds of this type are very common in Turfan-Turkic texts. A single concept is expressed by two synonyms: *ev barq* "house, building," *arīγ süzük* "clean, pure," etc. In most of these compounds only one element is Turkic, the other is a foreign loan word. In this category belong, among others, *baγ borluq* "garden, vineyard" the first elements of which is Iranian; *äd tavar*,<sup>32</sup> in which the second element is a word of civilization; *ton fiu* "dress, costume" in which the second element is Chinese 服 *fu*.<sup>33</sup>

<sup>26</sup> "The primary long vowels in Mongolian," *JSFOu*, 63, 2 (1962), p. 10.

<sup>27</sup> "Langvokale im Urmongolischen?," *JSFOu*, 65, 4 (1964), p. 15.

<sup>28</sup> "Манчжуро-монгольские языковые параллели", *Изв. Акад. наук* 1930, 601-626, 673-708, p. 695.

<sup>29</sup> *Эвенкийско-русский словарь*, (Москва, 1958), p. 405.

<sup>30</sup> *Тунгусско-русский словарь*, (Иркутск, 1926), p. 148.

<sup>31</sup> В.И. Цинциус—Л.Д. Ришес: *Русско-эвенкийский словарь*, (Москва, 1952).

<sup>32</sup> Denis Sinor, "Taγar~tavar~tovar~tār~tara," in *American Studies in Altaic Linguistics* edited by Nicholas Poppe. (*Uralic and Altaic Series* 13, 1962), pp. 229-235.

<sup>33</sup> Louis Ligeti: "Documents sino-ouigours du Bureau des Traducteurs," *Acta Orientalia Hung.* XX (1967), 253-306, p. 271.

In *asīγ tusu*, the first element is clearly Turkic, cf. e.g. Chuvash *usă*, and a perfunctory count of occurrences in Turfan-Turkic texts shows clearly that the standard word for "profit, advantage," the one that is used in most cases alone, is *asīγ*. I would tend to view *tusu* as the foreign element in the compound *asīγ tusu*.

Let us now turn our attention to the Tunguz forms. As shown, these can be found only in languages in which there is evidence of strong Mongol influence: the northern dialects and Manchu. I have no doubt that the aforementioned Tunguz forms must be added to the list of borrowings from Mongol.

I think that this lexicographic case-study is a good illustration of the intricate process that characterizes the spread of words in the Altaic world. If we project on a map the occurrences of the originally Mongol *tusa*, we have the outlines of a *Kulturkreis*, that deserves further study.

#### A Tunguz~Uralic word for "arrow"

Tunguz languages have a special word for a blunt arrow used for the hunting of birds and of small fur-bearing animals. The arrowheads may differ in shape or in the material they are made of, but they are all blunt, unsharpened. They kill the small animal by the shock of the impact, without spoiling the fur with an unseemly hole or without damaging the plumage of the bird. Most of these arrowheads are wooden, but some are carved from horn. Many variants of blunt arrowheads are depicted in the classic study of Bruno Adler.<sup>34</sup> In a more recent, scholarly and well-documented study Kāthe U.-Köhalmi<sup>35</sup> widened the scope of enquiry to include the vocabulary pertaining to the use of arrows. She calls attention, among others, to a group of cognates in the Manchu, Evenki and Even languages. To her data I have added a few of my own collection:

Manchu *luhu* "a headless arrow with a dull point resembling a pestle—used for shooting sitting birds and for target practice"<sup>36</sup>; Evenki *luki* "arrow" (in the literary language), "wooden arrow" (in a number of dialects); Even *nuki* "arrow"; Oroch<sup>37</sup> *luki* "a wooden arrow used against birds"; Olcha<sup>38</sup> *likka* "Vogelpfeil mit stumpfer Spitze"; Nanaj<sup>39</sup> (Kur-Urmi dialect) *luki* "arrow," *leke* "деревянная стрела без наконечника (игрушка)"; Orok *lekke* "arrow." The word is known in virtually all the Tunguz languages and the variations in the initial *l~n*- and in the vowels present

<sup>34</sup> "Der nordasiatische Pfeil," *Internationales Archiv für Ethnographie*, Supplement zu Band XV (1901).

<sup>35</sup> "Der Pfeil bei den innerasiatischen Reiternomaden und ihren Nachbarn," *Acta Orientalia Hung.* VI (1956), 109–161.

<sup>36</sup> Definition taken from Jerry Norman: *A Manchu-English dictionary*, (Taipei, 1967). I am pleased to be able to call attention to the existence of this recent work which, although considerably smaller than Erich Hauer's *Handwörterbuch*, contains some entries not to be found in any other western dictionary of Manchu. This does not apply to *luhu* listed by both Hauer and Gabelentz.

<sup>37</sup> P. Schmidt: "The language of the Oroches," *Acta Universitatis Latviensis* XVII (1927), 17–62.

<sup>38</sup> Cited on p. 57 of Wilhelm Grube: *Goldisch-deutsches Wörterverzeichnis*, in Vol. III of Leopold v. Schrenck, *Reisen und Forschungen im Amur-Lande*, (St. Petersburg, 1900).

<sup>39</sup> О.П. Сунник, *Кур-урмийский диалект*, (Ленинград, 1958), p. 181.

no problem.<sup>40</sup>

I should like to call attention to the existence of a number of Uralic words which, to my mind, are the cognates of the aforementioned Tunguz forms. In Yenisei-Samoyede *loku* "Klumpffeil," in Yurak (Nenec), *luk*, *lukky*, *luky*, *loky*.<sup>41</sup> T. Lehtisalo defines the word "Klumpffeil, stumpfer Pfeil (zum Schiessen von Eichhörnchen)," <sup>42</sup> N.M. Tereščenko's definition<sup>43</sup> of *loky mungg* (*mungg*=arrow) is "стреле с утолщённым концом, не пробивающая цели (напр. для охоты на белок)."

Y.H. Toivonen<sup>44</sup> traced the same word in Ostiak, e.g. *långk*, *langk* "stumpfer Pfeil, ohne eiserne Spitze, für die Eichhörnchenjagd" and "Pfeil mit hölzerner Spitze (meist als Spielzeug)." There are other Ostiak forms, and Matti Liimola<sup>45</sup> has shown the word to exist in Vogul: *l'ax* "Pfeil mit stumpfer Spitze für die Eichhörnchenjagd."

While the interrelatedness, nay identity, of the Tunguz and Uralic forms is undeniable, in this case—as in that of *tusu*, mentioned earlier in this article—I am not prepared to see in this correspondence a proof of the genetic relationship of Uralic and Altaic languages. Manchu *luhu* and its cognates are omnipresent in Tunguz but only the Samoyede languages, Vogul and Ostiak know the word in the Uralic domain. P. Schmidt<sup>46</sup> related Yukaghir *lokil* and Gilyak *lux* ("arrow") to the Tunguz forms. The suggestion is tempting, but for lack of expertise I have nothing to add to it. No one else seems to have noticed this correspondence.

There can be little doubt that *luhu* and its cognates here discussed are of Tunguz origin and that the forms to be found in the neighboring Uralic languages are borrowings. During the last two decades I have repeatedly called the attention to Tunguz and Uralic lexical correspondences.<sup>47</sup> Their number is legion and I hope to be able to devote an article to this topic in the not too distant future. The subject is one of importance from the linguistic as well as from the historical point of view.

INDIANA UNIVERSITY, U. S. A.

<sup>40</sup> Cf. В.И. Цинциус: *Сравнительная фонетика тунгусо-маньчжурских языков*, (Ленинград, 1949), p. 209, where the various forms are grouped.

<sup>41</sup> Cf. Y. H. Toivonen, "Beiträge zur Geschichte der finnisch-ugrischen I-Laute," *Finnisch-Ugrische Forschungen* XX (1929), 47–82, p. 52.

<sup>42</sup> *Juraksamojedisches Wörterbuch*, (Helsinki, 1956).

<sup>43</sup> *Ненецко-русский словарь*, (Москва, 1965).

<sup>44</sup> *loc. cit.*

<sup>45</sup> "Etymologische Bemerkungen," *Finnisch-Ugrische Forschungen* XXVIII (1944), 77–90, p. 85.

<sup>46</sup> *loc. cit.*

<sup>47</sup> e.g. in a recent paper "Geschichtliche Hypothesen und Sprachwissenschaft in der ungarischen, finnisch-ugrischen und uralischen Urgeschichtsforschung" read in June 1968 during the Martinus Fögelius Hamburgensis Gedächtnis-Symposion held in Hamburg. The paper was published in *Ural-Altaische Jahrbücher* XL (1969), 276–284.



# MORPHEME AND WORD IN CHINESE

## (THE STRUCTURE OF THE MORPHOLOGICAL LEVEL)

V. M. SOLNCEV

The present paper deals with the relations between the *morpheme* and the *word* in Chinese. The task thus formulated permits us to consider the structure of the morphological level viewed as a level consisting of morphemes and words.

Though this subject implies the consideration of the properties of the morpheme and the word as such, it allows us, however, to abandon for the moment a number of features of the word and the morpheme which are important in themselves.

As L. V. Ščerba<sup>1</sup> says, linguistics owes the term "morpheme" to I. A. Baudouin de Courtenay who used this term to mean the minimal part of a word not subject to further division into meaningful components. The term "morpheme" in this sense denotes such dependent parts of the word as roots and affixes of all kinds: prefixes, infixes, suffixes, and inflectional morphemes. This definition of the morpheme is very widespread in Russian and Soviet linguistics.

In European linguistics, the term "morpheme" has been given a different meaning. One can specify two main trends in the definition of the term "morpheme." First are the so-called "Vendryes-morphemes."

J. Vendryes has divided all linguistic units into those expressing notions or ideas, and those which show the relations between them.

The first he calls *semantemes*. Vendryes understands morphemes as "linguistic elements expressing the relations between such ideas, or *semantemes*." Thus Vendryes includes all grammatical means of the language, including the formal parts of the word, in the category of morphemes. The meaningful parts of words remain outside that category.

Another content is given this term by L. Bloomfield<sup>2</sup> and other descriptivists. Morphemes are defined as minimal sound segments phonetically and semantically different from other segments. According to Bloomfield, morphemes are minimal linguistic forms, whether they are words or parts of words.

There is a view that the notion of morpheme as it is understood by Baudouin de Courtenay is inapplicable to the Chinese language.

---

<sup>1</sup> See: Л.В. Щерба, "И.А. Бодуэн де Куртенэ и его значение в науке о языке," in Л.В. Щерба, *Избранные работы по русскому языку*, 1957, стр. 59.

<sup>2</sup> L. Bloomfield, *Language*, New York, 1933, p. 207.

If, however, we take a number of Chinese forms which are presumably words, such as *pàngz* (stout man), *zhuōz* (table), *shítou* (stone) etc. and regard their structure, we can then clearly distinguish in them two meaningful parts. The word *pàngz* consists of the part *pàng* which if used separately means "stout" and the part *=z* (*zǐ*) which cannot be used separately, but which regularly recurs in words with substantival meaning as a word-forming element.

This second element has only one definition in all the contemporary grammars of Chinese—it is a word-forming suffix of nouns. Hence as a part of the word *pàngz*—*zǐ* may be defined as a morpheme in Baudouin's sense. If one part of the word *pàngz* is a *morpheme* then the other part should be also considered a *morpheme* in the same sense of the term. With respect to the affix *=zǐ* the morpheme *pàng* is a root-morpheme. In the same way, the Chinese word *shítou* has two morphemes: the root *shí* and the affix *=tou*. If such formations as *huǒchē* (train) are words which can be analysed as consisting of two meaningful parts, it is natural to ask, what are they in relation to each other? Since we have within one word two meaningful parts we can define them as morphemes in Baudouin de Courtenay's sense.

The analysis of these very simple but typical examples shows that Baudouin's definition of the morpheme is applicable to Chinese within the established limits.

The further task is, therefore, to determine the limits within which this concept can be applied.

\*

\*

\*

The history of language studies shows that words historically precede morphemes. See, for example, the works of such scholars as F. F. Fortunatov, H. Paul, B. A. Se-rebrennikov and others.

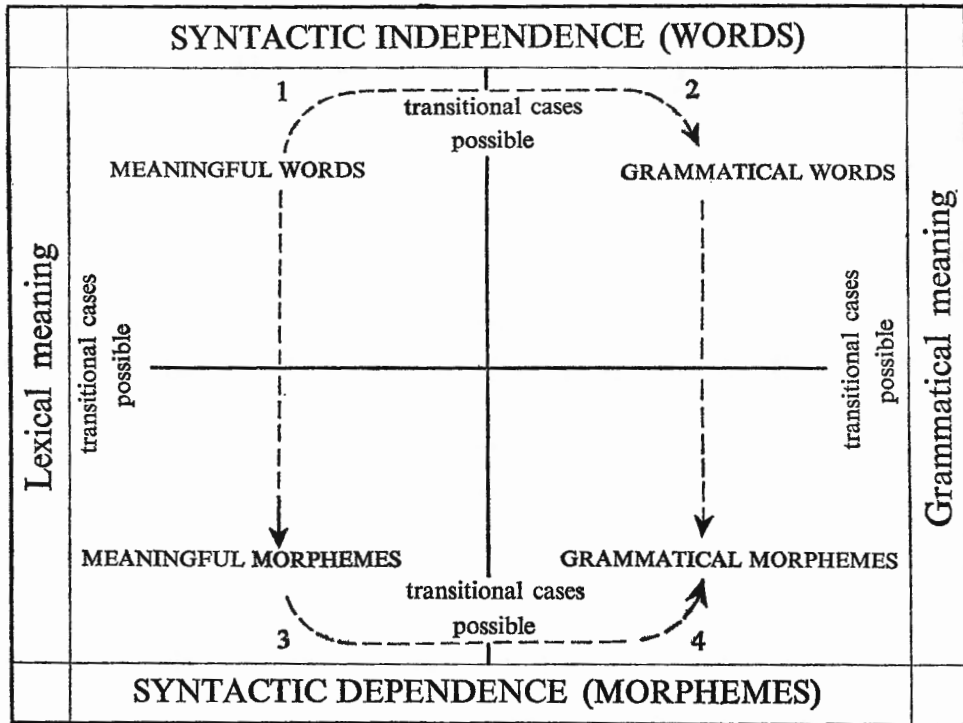
Meaningful words are a point of departure, a generating source not only of morphemes but of all kinds of auxiliary elements.

The origin of auxiliary words, and of meaningful and auxiliary (formal) morphemes can be quite clearly traced in Chinese and in other isolating languages.

The correspondence of existing auxiliary elements in Chinese with meaningful words is in most cases obvious. Thus the Chinese suffixes of aspect *=le* and *=guo* have descended from the verbs *liǎu* (to finish) and *guò* (to pass) and so on. The same may be said of auxiliary words—prepositions and conjunctions. The components of complex words (which we defined as morphemes) before they became parts of complex words were as a rule and are as a rule (if extracted from the complex words) meaningful words.

The "priority" of the meaningful words in relation to the auxiliary words and morphemes may be considered as an objectively established fact.

In view of what has been stated above, the structure of the morphological level of Chinese, regarded as consisting of words and morphemes, may be illustrated by the following scheme:



In this scheme the morphological units are placed in adjoining squares on the co-ordinate axis. The units in squares 1 and 2 have the common feature of syntactic independence. The units in squares 3 and 4 are united by the feature of syntactic dependence. Squares 1 and 3 comprise units with lexical meaning, squares 2 and 4, those with grammatical meaning. The dotted lines show the direction of development. Between squares joined by dotted lines there is constant transition of units in the direction shown by the arrows.

This scheme of the structure of the morphological level, showing in generalized form the relations between the units which constitute this level and the direction of their development, is relevant not only for Chinese, but also for any language which has full words that can be analysed as consisting of meaningful and formal parts, and grammatical words.

In every language, the role played by each category of units varies and, what is most important, there are striking divergencies among the ways in which units manifest themselves and combine and correlate with each other, which determines, together with other features, the typological properties of the language.

The morphemes in languages exist only within words. That is why they are defined as parts of words. At the same time, the morpheme may be artificially extracted from the word.

From the point of view of the "extractability" of morphemes two cases may be pointed out:

Case 1. The morpheme is extracted from the word as a sound segment associated with a meaning. This is characteristic of inflectional, or, to be more precise, of inflectional-synthetic languages. For example, the Russian morphemes *krasn=*, *uch=*, *=omu*, *=a*, *=l*; also the English morphemes *=toler=* (from the word "intolerable") *=ly*, *=ed*, *=s* etc. These morphemes may be either lexical or grammatical. Such morphemes are also found in isolating languages, which as compared with inflectional and particularly inflectional-synthetic languages present a maximum of typological divergencies. However, what has been said above refers only to grammatical morphemes in these languages. For example, in Chinese, *=le*, *=men*, *=zi*, *=tou*, etc. When extracted from the words these segments appear with a certain meaning, but they cannot be used for the construction of sentences independently from other words.

Case 2. The morpheme can be isolated only within the word as part of a word. Once extracted it becomes indistinguishable from the word. For example, in the Chinese word *pàngz* (a stout man) *pang* and *=z* are morphemes. *=z* outside the word is still recognizable as a morpheme, i.e. as a dependent part of the word, while *pàng*, outside the word *pàngz* cannot be distinguished from the independent adjective *pàng* (stout, fat). The same can be said of the analysis of the word *huǒchē* (train). The extraction of the components of the word leads to the appearance of elements indistinguishable from the words *huǒ* (fire) and *chē* (vehicle). The same is true of Vietnamese.

From the point of view of "extractability," the grammatical morphemes in the typologically polar linguistic groups (in inflectional-synthetic and isolating languages) display a fundamental similarity. Both within and outside words they are realized as segments possessing a certain meaning, but which are not to be used independently in the sentence.

As for meaningful morphemes the "extractability" and their forms vary in languages of different types.

The differing manifestations of meaningful morphemes and differences in extractability determine the distinctness or lack of distinctness of the boundary between the morpheme and the word. This is directly connected with the "extractability" of the morpheme. The boundary between the former and the latter is fixed in languages where the morpheme can be extracted from the word as a sound segment, and cannot be used independently. Thus, in Russian, the morpheme of the type *krasn=* must necessarily join with some other morpheme in order to function in the language. That other morpheme is usually a grammatical (or formal) morpheme. In other words, the word in this case has to be morphologically shaped. The morphological shape determines the distinctiveness of the word. That is why we may say that the extractability of the lexical morpheme from the word determines the clear distinctiveness of the word.

On the contrary, in Chinese a morpheme exists only within the word and when

extracted from the word it becomes undistinguishable from a word. The boundaries of the word and the morpheme are indistinct. This indistinguishability of the meaningful morpheme from the grammatically shaped word means that the use of other morphemes with the meaningful morpheme is not obligatory in order for it to function in the language. In other words, the extracted morpheme (equivalent to the word) need not necessarily be joined with any kind of grammatical (auxiliary) morpheme. In this way the so-called optional morphological shaping of a word is manifested.

The external indistinguishability of the extracted morpheme from the word is observed in all languages, though in different degrees. Sporadically it may be observed in the Russian language also. The morpheme *stol*= (table) is externally indistinguishable from the word *stol* (with the same meaning). This phenomenon occurs more frequently in the English language, where the growth of isolation of morphological units is quite evident, though this language remains inflectional.

In Chinese and Vietnamese the indistinguishability of the extracted morpheme from the word is a common typological feature and a general rule, though sporadically in these languages a meaningful morpheme may be extracted from a word and not be outwardly identical with the word.

The fact that the morpheme can not be extracted from the word testifies to the absence of a clear lower boundary of the word, i.e. of a boundary between the simple word and the morpheme.

In these languages the problem of differentiating the simple word from the morpheme is essential for an understanding of their structure.

The simple (one-syllable) word is grammatically complete, it belongs to the definite class of words, it can express a notion, and it is syntactically independent. This differentiates it from the morpheme defined as a dependent part of a word.

When we say that the morpheme *stol*= when extracted from the word *stol* can not be distinguished from the word *stol*, we deal with external indistinguishability. In Russian the word *stol* possesses a zero-morpheme which expresses the meaning of the nominative case, singular. Keeping in mind this zero-morpheme, we may say that the morpheme *stol*= without it differs from the grammatically complete word. In some of my papers I have tried to show that within certain limits the Chinese monosyllabic word when opposed to other forms of the same word may be considered as having a zero-morpheme e.g. the verb *chi* (to eat) used in sentences of the type *wǒ chi* (I am going to (I shall) eat) parallels the suffixed forms of the same word *chile* (perfective), *chizhe* (durative). The verb with the zero-morpheme expresses the meaning of intentional action and certain other meanings not rendered by *chile*, *chizhe*. If a monosyllabic word is recognized as having a zero-morpheme we may speak of its distinction from the monosyllabic morpheme which has been extracted from it, in the same sense as we speak of the distinction between the word *stol* and the morpheme *stol*=.

But if, within certain limits, the monosyllabic Chinese word may be considered to have a zero-morpheme, it is necessary to state the deep typological difference between

the identical phenomena in Chinese and in Russian. The point here is that the monosyllabic verb in Chinese may be used as an "absolute form." Under certain conditions (that is in certain environments) the verb without the accompanying grammatical morphemes may be used in the same meaning as the verb with the suffixes (grammatical morphemes).

The "zero form" in Chinese is a very new phenomenon, as new as suffixed forms. Despite the existence of the "zero form," a simple word is also used as an "absolute form," that is as a word which, though grammatically complete, cannot be divided into morphemes in the same way as the Russian word *stol* (table), (which is divided into two morphemes: meaningful and zero).

If we believe that the Chinese simple word has no zero marking or if we regard it as an absolute form then we should admit: 1) though the simple word differs from the morpheme in its general properties (grammatical completeness and so on), 2) still the morpheme, extracted from the simple word, is indistinguishable from the simple word.

The above considerations bring us to the conclusion that in isolating languages the properties of the simple word and those of the meaningful morpheme are very much alike.

The morpheme is clearly distinct from the word only if it functions as part of a complex or of a derived word. Only under these conditions may we apply to it the term "morpheme" as it was understood by Baudouin de Courtenay. Separated from the word the morpheme is distinguished from it only as a linguistic abstraction. The morpheme differs from the word in having no zero marking.

\*                      \*                      \*

Various languages (especially isolating ones) show that there is no insurmountable barrier between words and morphemes, not only from a historical point of view, but in the system of language taken in its present state as well. Interchangeability of words and morphemes can be detected on a greater or lesser scale in all languages. In Russian we have examples in which an element of the language which looks like a morpheme and is a morpheme according to the standards of the language, functions as a word. For example, there is an autonomous word *kinó* (cinema) with a stress on the second syllable, and there is a phonetically slightly different morpheme *kíno*= which is regularly found in complex words such as *kinolenta* (film), *kínozal* (cinema hall), *kinobudka* (projecting box), *kínosiomka* (film shooting) and so on. The position of the stress in all such cases testifies to the "morphemic" character of the element *kíno*= . However, on signboards, in newspapers and in oral speech we may find the same element *kíno*= used as a word, for example: *kíno i fototovary* (film and photo-appliances).

The isolating languages demonstrate on a grand scale how words pass into the category of morphemes and vice versa. We can point out at least three cases:

1. One-syllable elements function sometimes as separate words and sometimes in the capacity of morphemes as parts of complex or derived words: e.g., the Chinese

*huǒ* (fire) and *huǒ* as a component of the word *huǒchē* (train), *pàng* (fat) and *pàngz* (a fat man). This phenomenon characterizes the synchronic state of the Chinese language.

2. In Chinese many ancient one-syllable words have degraded to the state of morphemes. They have lost the possibility of being used separately and now are found only as components of complex words, e.g., the old Chinese verb *lì* (to stand), the noun *mù* (tree) and so on. There is a large group of words which can be placed between autonomous or independent words and those which now exist only as parts of words. I call these "semi-independent words." The free functioning of such words in speech though not fully precluded is limited by a number of restrictions. Thus we can observe a historical change in the system of morphological elements in Chinese.

3. A number of meaningful words have already passed the stage of components of complex words and now are used functionally as word-building affixes. At the same time they preserve a distinct notional link with the words that generated them. I call such elements "semi-affixes." For example the word *zhǔyì* (principle) (sometimes met in contemporary Chinese) is used as a word-building "semi-affix." This semi-affix in most cases corresponds in meaning to the Russian and English suffixes-izm: *shèhuìzhǔyì* (socialism), *mínzúzhǔyì* (nationalism), etc. This phenomenon is also a result of changes in the system of the Chinese language.

INSTITUTE OF ORIENTAL STUDIES, ACADEMY OF SCIENCES, U. S. S. R.

# AN ESSAY ON THE ANTHROPOMORPHIC NORM

TAKAO SUZUKI

πάντων χρημάτων μέτρον ἄνθρωπος

In this paper I intend to analyse some of the semantic problems concerning the various criteria according to which antonymous adjectives such as English long-short are used, and to introduce an *anthropomorphic norm* in terms of which certain usages of these dimensional adjectives are best clarified.

From the semantic point of view, at least two major categories can be distinguished among the English adjectives. The one we call absolute, the other relative.

Examples of absolute adjectives are *round* and *red*. Once we have acquired the conceptual criteria according to which certain objects are said to be round, or red as the case may be, henceforth we have no difficulty in ascribing roundness or redness to any new instances of an object that confront us.

Adjectives such as *big* or *long* we may cite as representatives of the relative group. With these we cannot speak of bigness or longness in the abstract as the absolute norm in reference to which we judge certain objects to be big or long. A practical manifestation of this fact is seen in that a man, when presented with something that looks like a stick measuring about 1.5 metres in length but which he cannot identify, finds himself at a loss whether he should say it is long or short. If, however, he is told that the object in question is a kind of walking-stick, he would immediately and easily pronounce his judgement, saying that it is rather *long*. Under the same circumstances if he is informed that it is supposed to be a pole used in the pole jump, he would surely describe it as very *short*.

In the field of modern linguistics, it was probably Edward Sapir who first drew attention to this. In his illuminating article entitled 'Grading: A Study in Semantics,'<sup>1</sup> he stressed the fact that in contradistinction to adjectives with qualitative differences such as red and green, words such as many and little, to take but a few examples, are used in different contexts with variable points of departure.

Next comes Ernst Leisi, who in his epoch-making work on descriptive semantics<sup>2</sup> made a systematic study of these adjectives, and formulated a number of norms according to which adjectives of the relative type are employed in various situations.

<sup>1</sup> in *Philosophy of Science*, 11 (1944): 93-116

<sup>2</sup> *Der Wortinhalt: Seine Struktur im Deutschen und Englischen*, 1953, Heidelberg



What I am going to do here is to elucidate, following the methodological procedure established by Leisi, the semantic mechanism involved in a statement of the following type.

Giraffes have long necks.

And the syntactic variants thereof,

The giraffe has a long neck.

A giraffe has a long neck.

What do we mean by saying that the giraffe has a long neck? What is the norm according to which we judge it to be long?

Before entering *medias res*, we shall define a few terms with which we describe the structure of comparative sentences in general. We will use the term *measure* for things and objects in reference to which a certain object is said to be more or less. A measure furnishes us with the point of departure in comparing things. The thing or the object compared we call a specimen. Thus, in "A is longer than B," A is a specimen and B the measure.

Now it is usual with sentences called comparative that the measure is explicitly expressed. Even when it is not actually mentioned, it is unmistakably understood both by the speaker and the hearer. In "Mt. Fuji is the highest mountain in Japan," it is evident that the measure is "all the other mountains in Japan." Here we say that the clause containing measure is deleted. Generally the deleted part of the sentence can be recovered unequivocally. We call this type of comparative sentences *overt* comparative. On the other hand, sentences having relative adjectives without explicit comparative construction, we call *covert* comparative. In other words, the overt comparative has a transparent semantic structure, whereas that of the covert comparative is opaque.

It is the very characteristic of this latter construction that only the specimen is on the surface with the measure hidden in the background, which fact helps to give us the false impression that no comparison is involved here, as suggested by Sapir.

Now let us look into the semantic make-up of our giraffe sentence. To bring forth more clearly what it means, we might paraphrase it in the following way,

All the animals called giraffe invariably have long necks.

Or to rephrase it in conformity with the logician's mode of expression,

If a certain object is an animal called a giraffe, and if it has an object called a neck, then the neck will always be long.

Thus we see that the original sentence is a disguise in everyday language of a proposition which falls under the category of the universal proposition. Among sentences of a similar nature, we count such sentences as,

Ducks have short legs.

The rabbit has long ears.

It is easy to multiply examples of this sort by choosing any kind of animal having a certain salient physical feature.

Now let us consider the next sentence.

? Men have short necks.

Grammatically speaking, there seems to be nothing anomalous here, but somehow we do not feel happy with this sentence. Suppose we say that giraffes have short necks, our negative response to this may be explained on the ground of factual incongruity, even though this again does not contain any grammatical fallacy. Is it, then, also due to some factual incongruity that we do not accept the sentence in question? If then, how about the following?

? Men have long necks.

Here too our response would be in the negative. This shows that the anomaly felt has nothing to do with the truth or the falsity of the sentence.

Is human neck something that does not allow of description by long-short adjectives? Certainly yes. We sometimes hear people say that so and so has a rather long neck or somebody has an extremely short neck. The situation seems to be quite the same with our arms and legs.

? Men have long arms, or ? Men have short legs are respectively grammatically acceptable but semantically anomalous sentences. One might be tempted to explain this by saying that there are some people who have short necks but others who have long ones. The reason cannot be this either. For we know well that among giraffes there are individual variations of exactly the same kind. For that matter, the neck of a newly born giraffe is decidedly shorter than that of a full-grown parent. And yet we can say with full equanimity that giraffes have long necks.

It should be noted here that it is perfectly all right to say, as we have done already, that *some* people have short legs, or a *certain particular* person has a long neck.

It has become clear by now that, if a sentence has a human subject, universal statements of the type above described are impossible, and are acceptable only if they contain an existential qualifier such as *some* or a *certain*. It would be needless to say that to these the so-called deictic terms such as *he*, *she* and proper names can also be added.

To recapitulate, a universal statement like our giraffe sentence is unacceptable when the subject is human, and this is not because of the factual incongruity but because of some semantic restriction imposed on the use of long-short which we shall proceed to clarify.

Among the diverse norms operative in the use of these adjectives, the specific norm, to use Leisi's terminology, seems most relevant to our present analysis. This norm is applied when an object is viewed from the standpoint of the average length of the species of which the object in question is a member. It should be noted in passing that the term *species* as used here does not necessarily mean a taxonomic unit as ordinarily understood within the framework of the natural sciences. A ski, for instance, is said to be long if it exceeds the ordinary length with which most of us associate a ski. But when we are concerned with skis for children, different criteria come to the fore that are based on our conception of what children's skis are. This is to say that skis

for adults and skis for children are to be considered as two different species as far as the application of relative adjectives is concerned.

And since there can be a wide range of possibilities as to which particular subgroup is chosen as the species at the moment, together with the fact that people rarely mention it overtly, it is easy to imagine that there is ample room for misunderstanding and debate as to whether something is long or short.

Now coming back to our original topic, let us see if this specific norm is also applicable to the above cases. When I describe one of my friends as having a long neck, my judgement no doubt is based upon a kind of specific norm, for what I mean by this is that his neck looks longer than that of an average Japanese.

But of "The duck has short legs," the same cannot be said.

At first we might be inclined to interpret this to mean that the duck has shorter legs than most other birds. But we immediately realize that there are a great number of birds that have far shorter legs than the duck. To be able to apply the specific norm, we must, first of all, know the average length of birds' leg in general, which is impossible.

Supposing that the duck had a bit longer legs than it actually does, we might perhaps cease to speak of it as having short legs. If, however, it should possess legs of considerable length, like those of a crane or a heron, then we would surely begin to refer to them as long. So it becomes evident that what is crucial is not the absolute length of the leg as such but the proportional ratio between the leg and the whole body. But among birds there is a tremendous variety as to this ratio, so that we cannot conceive of an average ratio that would provide us with the measure.

The fact of the matter is that when we see animals having a conspicuous physical feature peculiar to them, we make, consciously or unconsciously, comparisons between the image we have of our own selves and those that strike our eyes, and we express our impression of their physical proportions by choosing such adjectives as long or short depending upon the case.

The neck of a giraffe, for example, strikes us as disturbing the balance we associate with animals of the same bulk. People don't say that dogs have long necks because in this case the ratio of the neck to the body falls well within the boundary of the proportional norm we have in mind, so that we do not feel the harmony is lost. And this sense of balance, of harmony seems ultimately to derive from the very proportion obtaining between the parts of our own human body.

What is implied in the general statements above described is our wonder, surprise or disparagement of the figures possessed by these animals. Because of this, it is meaningless for us to comment upon the proportions we ourselves have which are, after all, nothing more than the yardstick, the norm itself. This is why universal statements referring to the human body find no place in our speech. This norm I would call anthropomorphic, and the recognition of this mechanism, I think, leads us further into the semantic subtleties besetting sentences of the opaque construction.

What, for instance, makes us to regard rabbits as fast-running animals? Again on what grounds do we say that cows walk rather slow? In my opinion, we pass judgement as to their relative velocity in the following manner. We cannot catch rabbits easily because they run faster than we do. When we walk with a cow, we have to slow down our speed to keep abreast of it. Of course, we all know that even cows run very fast, but in our ordinary dealings with them, they just walk slowly. The same holds with rabbits. Unexpected encounters with us usually drive them on the run, hence we attribute to them speed.

So here again a human attribute is taken as the norm. This, in fact, is anthropocentric and what I would call anthropomorphic is just one variety of it.

It is, indeed, all too natural that our view on the surrounding world is ultimately dependent upon ourselves as having the last word. There is an ancient Greek adage that man is the measure of everything.

KEIO UNIVERSITY, JAPAN

# ТЕОРИИ ИЗОСЕМАНТИЧЕСКИХ РЯДОВ И РОДСТВЕННЫХ КОРНЕЙ КАК НЕОБХОДИМЫЕ МЕТОДЫ ДЛЯ ЭТИМОЛОГИИ ЯПОНСКОГО ЯЗЫКА

Н. А. СЫРОМЯТНИКОВ

Этимологией японского языка (далее *J*) называется совокупность знаний о происхождении всех его корней, словообразовательных и грамматических морфем и конструкций. Разумеется, в ряде спорных случаев наши знания представлены в виде гипотез.

История проникновения в *J* так наз. *kango* и *gairaigo* (заимствований из других языков в исторический период) сравнительно хорошо известна. В этой статье я буду заниматься только “чисто японским слоем лексики.”

Будем считать, что в дописьменный период простые слова не сочинялись, аббревиатур не было, т.е. сознательной деформации корни и слова не подвергались.

Лексический состав древнеяпонского языка (далее *AJ*), зафиксированный в памятниках VIII в.,<sup>1</sup> не во всем идентичен “чисто японскому слою лексики” последующих эпох. Ряд старых слов вышел из употребления,—это вполне естественно. Но как объяснить возникновение “новых” простых слов (в особенности начинающихся на звонкий согласный, чего в VIII в. не было, или имеющих другие аномальные черты—сочетания согласных *-nd-*, *-mb-*, долгие глухие)? Почему вместо *sirome* ‘припой’ стали говорить *handa*? Откуда *assari* ‘легко,’ *doro* ‘грязь,’ *gabugabu* ‘глота большими глотками,’ *timba* ‘хромо́й’? Ведь все это не канго!

Даже слова из древнейших памятников не могут быть на 100% общего происхождения. Считая доказанным тот факт, что предки японцев переселились на острова с материка, мы вправе искать среди древних слов общие не только с уралоалтайскими, но и с индоевропейскими (далее *IE*), особенно тохарскими. С другой стороны, носители языка=субстрата—ассимилированные племена *Pajatō*, *Kumaso* и др. не могли не оставить в *AJ* малайско=полинезийских слов: *take* ‘гора’~*Mal daki* ‘подниматься (в гору),’ *Tk tağ*; *wotō=ko* ‘мужчина’~*Mal wadat* ‘холостяк’; *wotō=me*~*Jav wadun/wadon* ‘женщина’; *wonō*~*Mal wadung* ‘топор’ (ср. *Bur. ono* ‘зарубки на стреле,’

<sup>1</sup> См. 時代別国語大辞典, 上代編, 1967. Этот превосходный словарь делает все возможное для объяснения лексики *AJ* изнутри. Следующий этап—сравнение с другими языками.

*опо* = 'попадать в цель/подо что=н.') и др.

Недавно Самюэль Мартин привел 320 японско=корейских лексических соответствий, вывел для них праформы.<sup>2</sup> Однако, как бы ни были близки одно к другому некоторые слова двух языков, это не значит, что другие слова не имеют более близких соответствий в третьем языке. Видимо, С. Мартин принял географическое соседство Японии и Кореи за лучшее доказательство ближайшего генетического родства их языков. Правда, он приводит в ряде случаев и параллели из монгольских, тунгусо=маньчжурских и тюркских языков, но лишь как подсобный материал, а не равноправный с корейским, как следовало бы. В результате он не замечает общих корней там, где корейский корень фонетически дальше от японского, чем, например, тюркский. (*J abara* ~ *Tk kaburga*, *K kalbi* 'ребро'). Общеизвестно однако, что для реконструкции праформы надо учесть *все* варианты данного корня в разных языках (*E eptile/ewtile*, *Bur xabirga*, *Nivx karm*).

Для *midu* 'вода' я дал только параллели, но не праформу;<sup>3</sup> ср.:

<i>AJ</i>	корейский ( <i>K</i> )	маньчж. ( <i>M</i> )	эвенк. ( <i>E</i> )	тагал. ( <i>Ta</i> )
<i>midu</i> 'вода'	<i>mul</i> < <i>mīl</i>	<i>muke</i>	<i>mū</i>	—
<i>mukum</i> = 'отекаль'	<i>mu(I)k-</i> 'жидкий'	<i>muku-</i>	<i>muku-</i>	<i>tumog</i>
		'держатъ во рту воду'	'набирать в рот жидкость'	'полоскание для рта'
<i>pukum</i> = 'держатъ	<i>mul</i> = 'дер-	<i>ATK mīgar</i> 'источник'	<i>Mal. mukun</i>	
<i>kukum</i> = 'во рту'	<i>mōgūm</i> = 'жатъ	<i>pra-Si *melko</i> 'молоко'	'сосуд с	
	<i>MK mōgum</i> = 'во рту'		крышкой'	

Праформа уже не для двух, а для целого ряда языков вырисовывается в виде *\*mīlku*. Сочетание согласных сохранилось лишь в некоторых *K* словах. В других—оно было упрощено: *\*mīlku* > *mīlu* > *AJ midu*, с одной стороны, и *mīlku* > *miku* > *muku*, с другой (ср. *Koryak mimil* 'вода', *Esk mīk/ mīlgu*).

При этом надо учесть действие ряда фонетических законов, в первую очередь, так наз. "перелома гласного *i*," т.е. перехода *i* (*ī*) первого слога в другой гласный под влиянием гласного второго слога (NS, 122–125). Само обнаружение такого явления в *K* и *J* служит важным подтверждением близости их к алтайским языкам. В истории отдельных слов многие японские исследователи фактически признавали этот перелом. Так, например, комментаторы "*Koziki*" сближают *ajasi* 'странный' и *ijasi* 'низкий,' не сомневаются, что *utukusi* 'любимый' > 'красивый' имеет тот же корень,

<sup>2</sup> Samuel E. Martin, "Lexical Evidence relating Korean to Japanese," *Language*, Vol. 42, 1966, 2. (further—SM)

<sup>3</sup> Н.А. Сыромятников, "Об уралоалтайском слое древнеяпонского языка," ж. *Народы Азии и Африки*, 1967, No. 2, стр. 125 (Далее—NS). О соответствии *J, E 0* ~ *Tk k-* см. стр. 127, сн. 24. В *K* и *Nivx* метатеза согласных. Ср. и рус. *rebro*.

что и *itukusi=m=u* 'любить,' 'жалеть.' Наличие таких пар, как *imě/jumě* 'сон' (*Ta imbing* 'крепкий сон'), *idaku/udaku* 'обнимать,' *igamu/jugamu* 'быть искривленным (изогнутым)' (~*Tk iğil* 'быть согнутым,' 'гнуться,' *Mal iga* 'ребро' *E [h]iken* 'грудная клетка,' *Mal igal* 'позировать,' 'важничать,' 'танцевать,' *E ikēn-* 'с пением исполнять танец'), *ibari/jubari* 'моча,' *iku/juku* 'уходить' (~*M uka-* 'бегу,' 'убегаю,' *Mal ikut* 'следовать,' 'сопровождать'), *iroko/uroko* 'чешуя' и др. позволяют нам сопоставлять *J* слова с *i* в первом слоге со словами других языков не только с *i* (и *ĩ*), но и с более открытым гласным. Считая *i* в этой позиции более древним звуком, мы можем с полным основанием считать, что в тех языках, где вместо *\*i* мы находим *u*, перед нами результат "перелома *\*i*." Так, *ito~Mo uta=sun* 'нить,' *Mal untai/utas* 'веревка,' 'шнур,' 'нитка'—несомненно имеют общий корень.

Разумеется, кроме *u* вместо древнего *\*i* (*ĩ*) могут появляться в первом слоге и др. гласные. Так, *AJ jörökōb=u* 'радоваться' проф. С. Мураяма сопоставляет с *Mo jir̥ga*,<sup>4</sup> С. Мартин—с *K cilkōp=*. Значит, для протояпонского можно восстановить форму *\*jir(ō)kō=b=*, а не *jerege=* (Murayama, этимология No. 20).

Совершенно правильно С. Мураяма сопоставляет *J tika=* ~ *Mo čike* 'близкий.' Но в современных языках этот же корень имеет вид: *E daga/tagama*, *Mal dēkat*, *Bur tūxer*, *Khalkha dōxōm*. (ср. *Tk yakın* с *J jagate* 'возле,' 'вблизи' > 'вскоре'). Следовательно, если бы старомонгольская форма отсутствовала в памятниках, мы могли бы найти соответствия *tika=* только с учетом перелома гласного *i*.

В NS я критиковал "аустронезийскую теорию" Н. Мацумото, исходя из той (общепринятой) точки зрения, что она исключает уралоалтайскую.<sup>5</sup> Если даже в *AJ* есть слова из обоих языковых семей, они должны быть разными, —думал я. Однако дальнейшее изучение лексики малайского (индонезийского) и тагальского языков показало, что я был неправ. Мне удалось обнаружить немало корней, общих и для Севера и для Юга. Так, *karada* 'тело,' *kara* 'скорлупа,' 'ракушка,' 'кости,' 'кора,' *gara* 'телосложение' ~ *M giratu* 'костяк,' 'телосложение,' 'тело,' *giran* 'кости,' *giru* 'телосложение,' *Mal karan* 'кора,' *kērang* 'двойная раковина,' *kērangka* 'скелет.'

Кроме того, надо учесть и отсутствие начальных *r=*, *l=*, *n=*, *m=* в тюркских, *r/l=* и *n=* в корейском, *r=* в *AJ*. Имеющиеся слова с такими начальными согласными обычно являются заимствованиями. Корней на *m=* и *n=* сравнительно мало и в *Mal*. Поэтому *J mak=*, *M makta=* 'сеять,' *Hung mag* 'зерно,' 'семя' находим соответствия без начального *m=*: *Mari aga* 'сев,'

<sup>4</sup> Murayama Shichiro, "Mongolisch und Japanisch—ein Versuch zum lexikalischen Vergleich," *Asiatische Forschungen*, Band 17, Collectanea Mongolica, Wiesbaden, 1966, S. 154.

<sup>5</sup> См. 日本語の歴史, 1, 平凡社, 1963. Авторам этой книги взаимоисключаемость этих теорий представляется самоочевидной.

*Chuv ak* = 'сеять' (ср. *K mai* > *me* 'полоть'). *Mal* соответствие отсутствует потому, что носители субстрата—культуры *Jōmon*—еще не занимались сельским хозяйством. Но *makanap* = 'готовить заранее' кажется прямым заимствованием *Mal ta-kan* 'кушать,' *ta-kan-an* 'еда'; *masaka* с отр. 'вряд ли' ~ *Mal masak[an]* 'не может быть, чтобы,' 'неужели,' *mawir* = ~ *Mal mampir* 'заходить,' 'заезжать,' *madusi* 'бедный' ~ *Mal mandul* 'бесплодный,' 'неплодородный'; *maru* = 'круглый,' *mari* 'мяч' ~ *Mal mandala* (<санскр.?) 'окружность,' *E mariv* = 'согнуться,' *K murip* 'колени,' *Kh murui* 'кривой,' *Tat jomri* 'круглый' (метатеза во избежание начального *m*=?). *J nigir* =, *K ġiri* = 'сжимать' (рукой), *J nigiri* 'горсть,' *nigiri-kobusi* 'кулак' ~ *E nidurga*, *Bur. n'udurḡa*, *Kaz judurk* 'кулак,' *Tat nigitu* 'укреплять.'

*J* и *K* не различают *r* и *l* как фонемы. Но если, как в данном случае, в других языках мы находим везде или *r* или *l*, это сильно подкрепляет данное сопоставление. На соответствие в ряде случаев *J n* ~ *Tk j* уже указывалось.<sup>6</sup> Но *J n* может ~ *Tk 0*: *J nagare* 'течь,' *nagas* = *u* 'пускать по течению' ~ *Oirot agis*, *Kir agiz* 'пускать по течению,' *Ta agos* 'течение,' 'поток.' Таким образом, мы находим тут не только общий корень, но и суф. непереходности = *ar* = (ср. тат. *agar* 'проточный,' 'текущий' с *agu* 'течь,' 'течение') и переходности = *as* = *is*. От этого же корня происходит и *-nagara* ~ *Ev nikan/niken*—суф. одновременного деепричастия (ср. рус. предлог в течение с тем же ходом мысли).

Но из сопоставления близкородственных языков мы знаем, что помимо разных фонетических изменений в них неминуемо происходят и семантические расхождения. Образ мысли первобытных людей сейчас восстановить очень трудно даже их прямым потомкам. Скорее можно допустить, что в другом древнем языке могут происходить такие же семантические сдвиги, что и в первом. Так, рус. *teku* (*nagare* = *ru*): укр. *tikažu* 'убегаю' (*nige* = *ru*). Это значит, что могут быть еще языки, в которых слова с этими значениями близки и по звучанию. *J nigē/nigu[ru]* имеет и форму *nogare* 'мочь убежать' (*i* > *o* под влиянием *a* второго слога), *nogas* = 'дать убежать' ~ *Orhon jugur* 'бежать,' *Hung nógat* 'подгонять,' 'торопить,' *Kh nagas nugas* (*xijn*) 'спеша,' *Mo neke* = 'гнаться,' *Sem.-Ham \*nhr* 'течь,' *E nibe* = 'убежать.'

Хотя в *IE* языках корень *teku* имеет оба значения и 'течь' и 'бежать' (движение воды и живого существа приравниваются), но в *J* даже наиболее близкие *nagare* и *nogare* имеют разные корни.

Корни похожие, но не совсем идентичные по звучанию/значению и происхождению, назовем *родственными корнями* (далее—*RR*). Термин "*related roots*" использует и S. Martin. Другой принятый у этимологов оборот

<sup>6</sup> 大野晋, 日本語の起源, 1957. (Далее—*Ōno*). В этой ценной работе *Ōno* правильнее, чем Мартин, транскрибирует *K* фонему *r/l* как *r*, так как основным вариантом должен считаться встречающийся перед гласным, т.е. там, где различается больше фонем.



речи—“это связано с”—“*it is connected with...*”

Другие *RR*—*nadare* ‘лалина’ ~*E nadai* ‘удариться,’ ‘наскочить,’ *naga* ‘длинный,’ *nogi* ‘ость’ < ‘кость.’

*RR* свойственна нерегулярность образования. Это и мешало признать их до сих пор. Очень редко один и тот же способ применяется дважды:

*pitō* ‘1’—*puta* ‘2’  
*mi* ‘3’—*mu* ‘6’  
*jō* ‘4’—*ja* ‘8’

*Mi* ‘3’ и *mu* ‘6’ не восходят к одному корню, так как мы не можем восстановить ни звучания его, ни значения. Но это *RR*: *mu* обозначает число, вдвое большее, чем *mi*. Двойственного числа в *J* не было. Такие пары как *te/ude* ‘руки,’ *siri/usirō* ‘зад’ (раздвоенный), *sipo/usipo* ‘морское течение’ (прилив=отлив или вода=соль), *mi* ‘вода’/*umi* ‘море’ могли возникнуть под влиянием *Ainu*, где *u*=—префикс двойственного числа.

Я думаю, что *RR* имеются во всех языках. Но для *J* они особенно характерны потому, что, не имея конечных согласных, он вынужден был для дифференциации значения прибегать к тому или иному изменению в фонемном составе корней. К счастью, часть этих изменений уже замечена, что облегчает мою задачу.<sup>7</sup> Конечно, как отметил Морияма, *mörōmörō* ‘все,’ *mure* ‘толпа,’ ‘стая,’ *mōri* ‘роща’ и *mura* ‘деревня,’—если применить предложенный выше термин,—*RR*. Но как это можно доказать? На помощь приходит метод “изосемантических рядов,”<sup>8</sup> заключающийся в том, что нужно найти подобные сходства в других языках. *Hantu mōri* ‘толпа,’ ‘стая,’ ‘табун,’ ‘роща’ имеет, в сущности, одно значение ‘масса однородных предметов,’ а *J mure* ‘масса однородных одушевленных предметов.’ К *muri* ‘толпа,’ ‘стадо,’ ‘масса,’ ‘стая,’ ‘рой’ (пчел)—‘скопление одушевленных предметов,’ а *more* ‘песок’—‘скопление неодушевленных.’ То, что одно слово другого языка (*Hantu mōri*) имеет значения обоих *J RR* служит лучшим доказательством того, что они близки. Сюда же и *Kir mūrōl* ‘обилие.’ Таким образом, догадку о родственности этих *J* слов мы подкрепляем не только логическими выкладками, но и совершенно объективным материалом—фактами других языков.

*Rus. čerep=ok* ‘сrock’: *čerep* ‘cranium’: *čerep=axa* ‘tortoise’ представляют собой изосемантический ряд (тоже *Lat testa* ‘глиняный сосуд,’ ‘черепок’: *testūdo* ‘черепаха’). Следовательно, *J ka-me* ‘кувшин’: ‘*ka-me* ‘черепаха’—не случайное совпадение, а закономерное наречение черепахи по

<sup>7</sup> См. 森山隆, 上代に残存する ö-u 対応について—意味の分化に関する一試論—『国語学』, 1964, No. 56.

<sup>8</sup> См. В. П. Старинин, “К вопросу о семантическом аспекте сравнительно-исторического метода (Изосемантические ряды С.С. Майзеля)”, ж. *Советское востоковедение*, 1954, No. 4, стр. 99 и след.

изобретенной в неолите глиняной посуде (а не наоборот!). Из многочисленных параллелей в др. языках назову только: *Ta kalalang* 'глиняный кувшин'; *kalang* 'панцирь черепахи,' *Mal kambar* 'порода крупных черепах': *Java kumba* 'глиняный кувшин'; *Bashkir komoi* 'глиняная чашка,' *E kamit* 'берестяной короб для мяса и рыбы' и др.

Разное *J* ударение служит целям дифференциации, а не указывает на разное происхождение корней. Что это бывает так и в других случаях, показывает ряд *paʔna* 'нос' (кончик лица): *paʔnaʔ* 'цветок' (кончик, испускающий аромат, воспринимаемый носом); *paʔna* 'кончик' (вообще), *paʔnaʔ-t=u* 'испускать' (запах), 'излучать,' 'пускать' (стрелу) ~ *Ta panà* 'лук и стрелы,' *panundol* 'шило,' *K panil* 'игла.' *RR—pə* 'нос' (лодки); *paʔri* 'игла' ~ *IE \*bhar* 'колющее,' *Mal poros* 'ось,' 'острие'; *J paʔriʔ* 'балка' ~ *Mal peran* 'потолочная балка,' *Fin parru* 'стропило.'

На письме *RR*, различающиеся лишь ударениями, обозначаются разными иероглифами, что создает впечатление, будто они имеют неодинаковое происхождение. Но разные иероглифы говорят о различии только между соответствующими китайскими корнями, оставляя вопрос о близости *J* слов открытым. Это поняли еще японские филологи XVIII в. Но на не-лингвистов, как японцев, так и не-японцев, изучающих *J*, разные начертания производят впечатление указания на совсем другую этимологию. Им надо напомнить, что слова *AJ* существовали до проникновения в Японию иероглифики и с ней по происхождению не связаны.

Из семантических законов, общих всем языкам и проявляющихся и на *J* *RR*, остановимся прежде всего на давно известном факте выражения одним корнем (или *RR*) прямо противоположных значений. Так, *aʔka* 'красный,' 'светлый' (~ *Kh uxaa* 'кирпично=красный,' *Tk aq* 'белый'), *aʔkari* 'свет': *aʔkaʔ* 'грязь' (на теле) (~ *Bur aʔ* 'грязь,' *Ta agiw* 'грязь,' 'сажа'). *RR—iʔkari* 'гнев' (кто гневается, краснеет).

*Kagə/kaga*='тень,' 'отраженный свет' (луны), 'отражение' (*kaga=mi* 'зеркало'): *kaga=jaku* 'сиять,' 'сверкать,' *kagari=bī* 'сигнальный костер' ~ *ATk köligä* (XIB) *Fin kalve* 'тень': *Kh gegeen* 'свет.' *RR—kogar=u* 'подгорать,' 'обугливаться' (~ *E kongoro* 'почернеть'), *kogare=ru* 'сгорать (от любви),' 'страстно томиться' (~ *Mal kangen* 'страстно желать,' 'тосковать'): *AJ kögöör=u* 'замерзать,' 'затвердевать.' *RR—kegar=u* 'оскверняться,' *kega=s=u* 'осквернять,' *kega* 'рана' ~ *Mal kenan* 'шрам,' *Tk qarʔaʔ*='проклятие,' *qürʔaʔ* 'гнев.'

*Jamī* 'мрак' (~ *M jamji* 'вечер,' *Chuv jam* 'курение дегтя,' *Ta gabi* 'ночь'): *jak*='гореть' (*Tk yak*='жечь,' *E jaktan* 'старая гарь,' *M jaxaa* 'жар от угольев'): *jani* 'смола' (~ *M janga* 'факел из лучин смолистых деревьев,' *Tk yamk* 'сгоревший,' 'сожженный,' *Kh jandan* 'дымоходная труба,' *Ta gala* 'смола,' 'деготь'). Таким образом, сближаются слова со значениями 'того, что горит (сияет),' и 'того, что уже сгорело (почернело)' и 'того, что может гореть.'

Однако видно, что ряд слов разных языков фонетически ближе к одному из *J* *RR*, а семантически—к другому. Ср. также *kuro*='черный' (*Tk, M, Mo kara, IE \*ker*): *kumo* 'облако' и *K kurim* 'облако': *kköm* 'очень черный.'

Назовем это явление ОБМЕНОМ ЗНАЧЕНИЯМИ МЕЖДУ РОДСТВЕННЫМИ КОРНЯМИ. Почему оно может возникнуть? Это связано с нерегулярностью образования *RR*: Мы можем привести лишь одну подобную пару: *siro* = 'белый': *simo* 'иней' (белое явление природы). Но в большинстве случаев различие между *RR* выражается морфологически уникальным способом потому, что САМО РАЗЛИЧИЕ НАЗЫВАЕМЫХ ЯВЛЕНИЙ ДЕИСТВИТЕЛЬНОСТИ ЯВЛЯЕТСЯ УНИКАЛЬНЫМ. Между тем, в области грамматики мы находим регулярность, объясняемую тем, что все формы, например, страдательного залога имеют общее грамматическое значение, противопоставленное значению форм побудительного залога. Именно поэтому язык и может одинаковое значение обобщать и выражать одним и тем же формантом. В уникальной же лексической паре выделение суффикса не происходит: *kumo* на корень и суффикс не разложимо и является корнем полностью (как и *kuro*=). *RR*—*kure* 'сумерки,' *kuri* 'каштан' (~*M kuri* 'темнобурый,' *Mari küren*, *Oyrot küreŋ*, *Kh xüren* 'коричневый'). Казалось бы, можно найти здесь общий корень *kur*=. Но, выделяя корень, нужно выделить и суффиксы, которые должны повторяться в том же значении и при других корнях. Однако мы не в состоянии сделать этого: *kuro* = 'черный': *kura* = 'темный,' но *siro*=/*sira*= 'белый'—полные синонимы. Корнем, имеющим значение, противоположное *kura* (~*Mal guram*), будет *kira* в *kirakira*=*su* 'ослепительно сверкать,' *kira*=*mek*=*u* 'сиять,' 'сверкать' (с суф. =*mek*=, общим с *Tk* языками) ~*Mal kilap* 'блеск,' 'сверкание,' 'мелькающий (мерцающий) свет,' *Ta kilap* 'блеск,' 'глянец,' *Mal*, *Ta kilat* 'молния,' 'зарница.'

Таким образом, замена конечных гласных фонем другими принципиально ничем не отличается от замены других позиционно звуков при образовании *RR* (разумеется, пока речь идет об именах существительных и других не спрягаемых частях речи).

Так, в *kobu* 'шишка,' 'горб': *kubo* 'впадина,' 'углубление' гласные как бы меняются местами. Но в других языках соответствующие материально близкие корни различаются иначе:

*Kir köböŋ* 'вздутость,' 'припухлость': *köbööl* 'вымоина,' 'нора'—различие в отсутствующих в *J* конечных согласных.

*Mal kubah/kubat/gubah* (<ар.?) 'купол': *kubang* 'грязная лужа,' 'прудок.' Отличие снова в конечном согласном.

*Ital cupola* 'купол': *Lat cūpa* 'бочка.'

*Arab qubba* 'купол' (из др. егип. *ker*?).

Выходит, что название верхней полусферы и название нижней во многих языках сходно. Те языки, которые имеют конечные согласные, используют их для дифференциации этих значений. Но *Fin kumpu* 'горка': *kuorpa* 'яма.'

Выходит, что различие *kobu*: *kubo* перегласовкой свойственно только *J* языку.

Имеют ли эти слова *RR*? Да, еще Э. Накадзима указывал, что "*Kabu* в *kabu* [ra] ('репа,' 'стрелы с тупым концом') одного происхождения с *ku<sup>Г</sup>bi* ('шея'), *ka<sup>Г</sup>bu* ('пень'), *ko<sup>Г</sup>bu<sup>Г</sup>* ('шишка,' 'выпуклость')."<sup>9</sup> Действительно, *ka<sup>Г</sup>bu* 'пень' и *ka<sup>Г</sup>bu* 'репа' полные омонимы общего происхождения (общее значение—'округлый предмет растительного мира' ~ *Tk kavun* 'дыня,' *Ukr kawun* 'арбуз' (<*Tk*), *Mal gambas* 'кабачок,' *Ta kabuti* 'гриб'; *Rus kabač-ok* (<*Tk*). Что касается остальных слов, то они являются *RR*. Вряд ли, однако, было такое время, когда все обозначаемые ими предметы назывались одинаково. Поэтому вместо "общего происхождения" я предпочел бы говорить об общем *фонетическом типе* (*kVbV*) и заключенном в нем значении—кругообразности.

*Kubi* 'шея' ~ *Tk kubur* 'длинный сосуд в форме цилиндра,' *Komi gum* 'полый стебель растения,' 'всё, похожее на полый цилиндр.' Видимо, шея получила в *J* название *по форме*, напоминающей трубу.

*RR—ku<sup>Г</sup>da* 'труба' ~ *K kultuk*, ~ *M gulduri*, *Ude kula* 'труба,' *Mal gundan* 'горло,' *Min kuduk* 'затылок,' *Hung kút* (<*Tk quda*), *Komi kodom*, *Kh xudag* 'колодец' (ср. *pra-Sl \*kold-*).

*J kuda* и *Ude kula*—упрощения формы типа *\*kulda*. Часть языков удерживают древние гласные *u—a*, другие унифицируют второй гласный по первому, но общее значение 'цилиндр' везде сохраняется.

В обеих группах слов (соответствующих *J kubi* и *kuda*) наблюдается *обмен значениями*. Но, поскольку шея и труба имеют большое сходство по форме, это не должно удивлять нас.

Колодцы в Средней Азии имеют именно цилиндрическую форму. Со словами в значении 'колодец' надо сопоставить *J ku<sup>Г</sup>da=r=u* 'опускаться вниз,' *ku<sup>Г</sup>da=s=u* 'опускать,' *ku<sup>Г</sup>da<sup>Г</sup>k=u* 'толочь' (опуская пестик), *ku<sup>Г</sup>du* 'отбросы,' 'отходы' ~ *Udm kid* 'отруби,' 'шелуха,' *Tuv kudu* 'вниз,' 'внизу,' *kudulaar* 'понижаться,' *kuduruk* 'хвост'; 'охвостье' (остатки от обработки зерна) (хвост в *Tuv* назван как цилиндрический предмет, опущенный вниз).

*RR—ku<sup>Г</sup>do* 'выходное отверстие очага' (~ *Mari kudo* 'летняя кухня'), *kudo=* 'длинный до назойливости' > 'навязчивый,' 'многословный.'

*Ku<sup>Г</sup>ti* 'рот,' 'отверстие,' 'горлышко' ~ *K kul* (Ќно, 108), *Polin gutul* (Ќно, 178), *Ainu kut* 'горло,' *МК kut/kus* (SM, 150) 'пустота,' 'полость,' *Nivx kuti* 'нора.'

Но кроме гласных в словах этого типа могут изменяться и согласные: *ka<sup>Г</sup>pa<sup>Г</sup>* 'кожа': *ka<sup>Г</sup>bi* 'плесень,' (изосемантический ряд: *Mal kulit* 'кожа,' 'шкура,' 'кора,' 'скорлупа': *kulat* 'плесень'). *Mal kapal* 'огрубевшая кожа': *karang* 'плесень'—материально близки к *J* словам. *J kara* 'кожа' ~ *Oi kabağa* 'шелуха,' 'скорлупа,' 'кора,' 'кожица,' *Tat kabik* 'кора,' 'скорлупа,' 'шкура,'

<sup>9</sup> 中島悦次, 古事記評釈, 東京, 山海堂, 1936, 三版, 124 頁.

‘кожа,’ *K kkör* (в сложных словах *kkörtegi*, *kkörpil* и др.). Следовательно, совпадение *kapa* с *Mal kapal* неслучайно. Но при сопоставлении *J kabi* с *Mal karang* возникают фонетические затруднения: трудно утверждать, что *J =b=*  $\sim$  *Mal =p=*,  $=i \sim$  *ang*. Но дело в том, что каждый язык устанавливает свои собственные различия между *RR*: *Mari kavásti* ‘шкура,’ ‘кожа’: *kupáš* ‘плесневеть’  $\sim$  *K \*kom* (SM 142) ‘плесень,’ *Ainu kumi*, *Kir köpölök*, *Tk küf* ‘плесень.

Другой изосемантический ряд—*kapa* ‘кожа’: *kapi* ‘раковина’ ( $\sim$  *Tat kabır=čik* ‘раковина,’ *kapkau* ‘покрывать,’ *Mal kepah* ‘двустворчатая раковина,’ ‘вид моллюсков’). Таким образом, в основе таких наименований лежат два признака: округлость предмета и функция—служить покрытием.

Камэи Такаси, критикуя Карлгрена за возведение *AJ kapi=ko* ‘шелковичный червь’ к кит. *kap* ‘бабочка,’ напоминает, что ‘бабочка’ называлась на *AJ kapapiraku*.<sup>10</sup> Но почему же первые три фонемы совпадают? Почему так похожи *Kir köpölök*, *Jakart kaper*, *Ta kambubulag*?

Возможно, что дело не в общем происхождении таких слов, а в их дескриптивном характере, в наличии известной связи между фонетическим типом слова и его значением. В защиту произвольности связи звучания и значения в простых словах обычно говорят, что если бы такая связь существовала закономерно, в языке не было бы синонимов и омонимов.<sup>11</sup> Но ведь свойства каждого предмета многообразны, а каждое наименование он получает по одному (двум, трем) признакам. Если первоначальная “внутренняя форма” предмета забыта, нам кажется, что слово обозначает предмет или явление во всем многообразии его признаков. Но это недоумение. Если синоним происходит по названию другого признака, близости звучания не будет. Одну и ту же лошадь можно назвать **рысаком**, **жеребцом**, **вороным**, **клячей**, каждый раз имея в виду иной ее признак. Но почему она называется **конем**,—мы уже не знаем.

Что касается омонимов, то не должно быть лишь исконных омонимов, обозначающих предметы без общих свойств. Но в процессе фонетического развития языка—независимо от семантики—два слова могут оказаться имеющими одинаковое звучание (как *Rus luk* ‘bow’ и *luk* ‘onion’). Но если из истории языка известно, что раньше они звучали неодинаково (*lōkъ* и *loukъ*), значит, нарушения принципа тут нет. Но, конечно, надо присмотреться к так наз. “омонимам” и найти общие для них семантические основы (о явных заимствованиях нечего и говорить).

Роль случайности в совпадениях звучания и значения в разных языках изучена при помощи теории вероятности. Оказалось, что в четырех языках совпадение практически не может быть случайным.

<sup>10</sup> Kamei Takashi, *Chinese borrowings in prehistoric Japanese*, Tokyo, 1954. But in “*Kokugo=daijiten*” *kapapiraku* is absent.

<sup>11</sup> См. А.А. Реформатский, *Введение в языковедение*, Москва, 1967, стр. 24.

Если мое предположение о наличии общего значения у слов типа *kVp* (*b, m*) *V* правильно, все до одного такие слова представляют собой систему и занимают в ней определенное место. Так, *kaḡpaḡ* 'кожа': *kaḡpo* 'лицо' (как округлый предмет, обтянутый кожей) ~ *Fin kalvo* 'плева': *kasvo* 'лицо.'

*RR—kaḡbë* 'стена': *kaḡbaḡp=u* 'защищать,' 'прикрывать' ~ *Tat kaplau* 'прикрывать,' *Kir kama=* 'осаждать': *kama=l* 'крепостная стена' (от формы страдательного залога), *Mal kambì* 'перегородка,' 'простенок,' 'изгородь,' *kubu* 'укрепление,' 'вал,' 'стена,' 'забор.'

*RR—kapi* 'ракушка': *AJ kapi* 'ущелье': *kaḡpaḡ* 'река' ~ *Mal kepah* 'двустворчатая ракушка' (которая может сжимать): *kapang* 'плавать.' В NS я сопоставлял *кара* с удм. *Kam* 'река,' 'Кама,' но М. Räsänen пишет: "названия таких географически близких рек, как *Kemi(joki)* и *Simo(joki)*, встречаются довольно часто на севере СССР (и в Финляндии.—Н.С.). Возможно, эти гидронимы сопоставимы с древним тюркским названием Енисея *Kem* и названием его крупного западного притока *Sym*, напоминающим *Simo*."<sup>12</sup> Но эти гидронимы лучше всего объясняются из *AJ kaḡmi* 'верх,' 'верховье (реки)': *siḡmoḡ* 'низ,' 'низовье.' *Siḡmoḡ* 'иней' (~ *E singikse*) есть 'белое явление природы внизу,' а *kuḡmo* 'туча'—'черное сверху.' Сым—приток Енисея—впадает в него гораздо ниже, чем р. Кемь. Древние тюрки жили не на всем протяжении долины Енисея, а лишь в его верховьях. Удмурты тоже называли Камой реку, не впадающую в море, т.е. верховье.

*Kaḡmi* 'верховье реки': *kaḡm=u* 'кусать,' 'грызть,' 'жевать' ~ *M kamni=* 'смыкаю глаза,' 'сжимаю зубы для разжевывания откусанного,' *Tat kabu* 'есть=пить,' 'кусать,' *Tokhar A kam* 'зуб,' *Mal komat=kamit* 'шамкать,' *kima* 'двустворчатая раковина,' *kemul=kemul* 'жевать.' Значит, *kami*—'верховье реки, зажатое в ущелье.' *Kabar=u* 'прикрывать': *kabu=r=* 'надевать на голову,' *kabu=s=* 'покрывать,' 'надевать на голову': *kabuto* 'шлем' ~ *M kamtu* 'валяная шапочка,' 'колпак, надеваемый под шлем,' *K kamthu* 'волосяная шапочка,' *Kh gaval* 'череп,' *Khotan kamal* 'голова,' *Mal gabuk* 'покрывать,' *Mal* (<*Sanscr*) *kepala* 'голова,' *Lat caput*.

Подчеркну еще раз важность сделанного наблюдения, что *AJ* наименования имели в виду наречение по двум (или даже трем) признакам: *kuḡmo* 'паук' (темное, круглое существо, занимающееся тканьем): *kuḡmu* 'сплести' ~ *МК kömi* (Опо, 178) 'паук': *köm=* (SM 214) 'черный': *kkumi=* 'украшать,' 'шить' (*E kumi=ken* 'насекомое,' *kumke* 'вошь,' *Mal kuman* 'чесоточный клещ,' 'вошь,' *kumbang* 'шмель,' 'жук'; 'черный,' *Chuv kum* 'снова нитки,' *Udm ku=* 'ткать,' 'плести,' *Mo gürümel* 'плетеный' > *Mongor gulman*.

До сих я говорил только о словах, зафиксированных в *AJ* языке или обозначающих понятия, существовавшие и в очень древние эпохи. Однако

<sup>12</sup> М. Ряснен, "Об урало-алтайском языковом родстве," ж. *Вопросы языкознания*, 1968, № 1, стр. 49.

в лексическую систему входят даже не зафиксированные в *AJ* языке слова, в том числе имеющие фонетические новшества. Так, *do*Γ<sup>ro</sup> 'грязь': *to*Γ<sup>ro</sup> 'заводь,' 'омут' ~ *K töröp* = 'грязный': *tol* 'канавка' (*Mal djorok* 'грязный,' *Bur doro* 'внизу,' *Nivx tol* 'вода,' 'водное пространство,' *E tonger* 'озеро' и др.).

*Assari* 'легко,' 'просто' ~ *M arsari*, *Chuv ansat* 'легко,' 'просто,' *Bur ar=sar* 'кое=какой.' *Assari* явное заимствование из протоманьчжурского (даже показатели наречий =*ri* одинаковые).

*Gabugabu* 'глотаю большими глотками' (~ *Ta ngabngáb* 'поглощение пищи с жадностью'): *kubi* 'шея' (горло): *kup* = 'есть' (*K kuppu* = /*kuppi* = 'хотеть есть,' *Mal kupil* 'отделять,' 'отщипывать' (от большого куска), *Fin kupu* 'зоб'). *RR*—*kap* = 'кормить,' 'выкармливать' ~ *Oir kabur* 'пасти.'

*Timba* 'хромой' ~ *E timna*, *Mal timpang* 'хромать,' *K cöllimbari* 'хромой.' *ha*Γ<sup>nda</sup> 'припой' ~ *Oir*, *Kir kapda* 'паять,' *M hannada* 'паять,' *Mal pateri* 'припой,' *Ta hinang* 'паяние,' *pandáy* 'кузнец.' Проф. I. Simmura дает две этимологии *handa*: или от *Handa* 'полполя'—местности в провинции *Iwasiro*, где были серебряные рудники, или от названия о-ва *Banda* в Индонезии. Однако значение слова таким путем не объясняется,<sup>13</sup> хотя иноязычное происхождение слова признается.

Такие слова, как *timba* и *handa*, не входят в лексическую систему *J* и являются явно чужеродным вкраплением.

\* \* \*

Произведем теперь лингвистический эксперимент: заменим в фонетическом типе *kVbV* первый взрывной *k* на *t*: проанализируем общие значения полученных слов: *ta*Γ<sup>bi</sup> 'вид легкой обуви' (округлое покрытие): *ta*Γ<sup>bi</sup> 'путешествие' ~ *Ta tapák* 'босоногий': *tapak* 'шаг,' *Mal tapak* 'ладонь,' 'подошва,' 'ступня': *tapak*=*tapak* 'сандалеты на деревянной подошве,' *Rus táp*=*očki* (вид легкой обуви): *tóp*=*at* 'tramp' (*Tk taban* 'подошва,' 'ступня,' *E tā*= 'снять чулком шкурку со зверька,' *Bur tabxai* 'лапа,' 'ступня'), *Hung talp* 'ступня,' 'лапа': *tapos* 'ходить по чему=л.'

*RR ta*Γ<sup>ba</sup> 'связка,' 'вязанка,' 'сноп,' 'пучок' ~ *Ta taban* 'зажатый в кулаке,' *E tav*= 'поднять с земли,' 'собирать' (ягоды), *K tabal* 'пучок,' 'букет,' 'связка,' 'вязанка,' *Bur teberi* 'охапка,' *Komi tubras/tobras/torbas* 'куст лука,' 'свиток,' 'пучок,' 'сверток.'

Опуская многочисленные соответствия в других языках, отмечу, что и такие слова, как *ta*Γ<sup>ma</sup> 'шар,' 'капля,' *tu*Γ<sup>bo</sup> 'шарообразный сосуд,' *tu*Γ<sup>bura</sup> 'круглый,' *tu*Γ<sup>bu</sup> 'зернышко,' 'пузырьки воздуха' и многие другие показывают, что слова типа *tVb(m)V* тоже означают круглый (чаще шарообразный) предмет.

<sup>13</sup> 新村出, 広辞苑, 岩波書店, 1956, p. 1778.

А можно ли сближать слова разных фонетических типов, ища для них праформы? Думаю, что нет. Когда С. Мартин сравнивает *K tol* 'камень' с *J isi*, он делает ошибку. Ведь еще Рамстедт сравнивал *K tol* с *J to* 'точильный камень,' *Turk taf* 'камень,' *Mo til'agun* > *Kh čuluun* 'камень' (напрасно только он предполагал протомонг. форму *\*tal'agun*:<sup>14</sup> ведь она противоречила бы закону перелома гласного *i*). Теперь мы можем добавить и тунгусо-маньчжурские слова, на недостаток которых в научном обороте так сетовал Рамстедт в свое время: *E jolo*, *Even jol*. Думаю что сюда можно отнести и *Rus tok* = 'whet' и *ATK tōg* = 'толочь,' 'молотить.' *AJ isi* 'камень' ~ *Komi iz*, *E iše* 'камень.'

Ошибка С. Мартина (одна из немногих в его ценной работе) поучительна. Именно подобный подход, при котором сравниваются не корни с их общим фонетическим типом и значением, а *предметы* с их названиями, мешал отождествить большинство сближенных выше слов.

Какие возражения могут быть сделаны против приведенных положений? Могут сказать, что сравнивать *AJ* слова надо не со словами из словарей современных языков, а со словами из малайско-полинезийского, например, праязыка. Да, так действительно следовало бы делать, если бы я считал, что контакты между *AJ* и этими языками восходят к столь отдаленному периоду. Но я, напротив, думаю, что часть этих слов является относительно новыми заимствованиями. Например:

*Ser=u* (в *AJ* нет) 'набивать цену на торгах' ~ *Mal seru* 'кричать.'

*Tamporo* 'одуванчик' ~ *Ta kampupot* 'жасмин' (*k=>t*= под влиянием *tama* 'шар'—формы зрелого цветка одуванчика).

*kaŋŋap(e)* 'думать,' 'считать' ~ *Mal anggap/menganggap* 'считать,' 'полагать.' Правда, в *AJ* это слово писалось *ka=mu=ka=pě*. Но ведь буква *MU* служила просто средством записи до появления буквы *h* (*N*, *ŋ* и т.п.). Ср. *MU-MA* вместо [ɲma] 'лошадь,' *MU-DA-KU* 'держат на руках' (вместо [ɲdaku]). *fāfā[tofita]* 'бесстыжий' с долгим *a* и мягким *f* совершенно не похоже ни на *J* слова, ни на *kango*. Лишь *Mal siasia* 'зря,' 'пустячный,' 'равнодушный' дает объяснение происхождения этого слова.

Можно сказать, что *Ta =g=* может ~ *R*, *h* др. родственных языков: *Ta agos* ~ *Mal arus* 'течение.' Но *arus* ~ *J arap=u* 'мыть' (*Mal arau* 'перемешивать'), *Tk ari* 'чистый,' *arit* = 'мыть,' *Mari aru* 'чистый,' *Bur arig* 'чистый' и т.д. Т.е. контакты даже в дописьменный период имели место не обязательно с прамалайским, а и с совершенно конкретными языками, причем именно не с одним, а с несколькими. Разумеется, для пополнения этого списка следует сопоставить *J* лексику и с другими языками Филиппин и Тайваня в

<sup>14</sup> G.J. Ramstedt, A Comparision of the Altaic Languages with Japanese," *Journal de la Société Finno-Ougrienne*, 55, Helsinki, 1951. p.12.



первую очередь, а не только с тагальским и малайским.

#### ВЫВОДЫ

1. *Wago* ('чисто японский слой лексики') имеет корни, представляющие собой определенную *систему* сравнительно небольшого числа *фонетических типов*, обладающих общим значением (формы—округлой, шарообразной, цилиндрической и т. п., функции—служить покрытием, вместилищем, оконечностью и т. п.,<sup>15</sup> степени влажности—сухой, мокрый, движения или покоя и т. п.).

2. *Корни* одного типа, различаясь между собой той или иной фонемой или дифференциальным признаком фонемы, обладают близкими значениями, что дает возможность назвать их *родственными*.

3. Между собой *RR* различаются не *морфемами*, как при аффиксальном словообразовании, а необобщенными уникальными способами: музыкальным ударением, перегласовкой, изменением согласного и т. п. "*внесистемной морфологией*." Такие разные способы отражают уникальные различия между предметами и явлениями действительности, которые *RR* обозначают.

4. *RR* не обязательно восходят к общему предку, от которого они произошли путем "естественного" фонетического развития. Напротив, нарекание новых предметов в глубокой древности происходило как бы путем преднамеренной деформации корня, обозначавшего сходный предмет.

5. Разумеется, связь значения со звучанием вовсе не противоречит возможности образования новых корней и слов путем переноса значения, как почему-то думает А. А. Реформатский. Так, *wo*<sup>1</sup> 'хвост' > *wo*<sup>1</sup> 'шнур'; *wo* 'хвост' > *wo* = 'маленький' (а может быть, и *wo*<sup>1</sup> 'лен,' если это не заимствование: лен по форме—длинный и тонкий как хвост), *wi* 'источник' > *wi* 'колодец.'

6. Имело место и суффиксальное словообразование (*wo* 'хвост' > *wop* = *ar* = *u* 'кончать[ся],' *wop*(*e*) 'кончать'; *kög* = *u* 'грести' > *kogoti* 'наклоняться,' 'сутулиться' (в *AJ* нет).

7. Для проверки закономерности предполагаемых *семантических изменений* предлагается использовать метод "изосемантических рядов," т.е. считать неслучайной близость корней, считать их *RR*, если слова с такими же значениями сближены в других языках. Особенно убедительны те случаи, когда значения двух *J* слов присущи одному слову другого языка или же двум словам, образованным от одного корня путем аффиксации.

8. В результате сопоставлений с другими языками обнаружено большое число материально близких корней, особенно с урало-алтайскими языками

<sup>15</sup> Сходную точку зрения высказывал проф. 安藤正次: 古代国語の研究, 1924, см. особенно стр. 225-226.

(включая корейский). Значительная часть этих корней имеется и в малайско-полинезийских языках, в айнском<sup>16</sup>, десятки—в нивхском, корякском, индо-европейских, эскимосском.

9. Тем самым признается необходимость одновременного сравнения корней *J* языка с максимально большим числом полисиллабических агглютинативных языков Евразии, а попарное сопоставление (*J* и *K*, *J* и *Mal*) признается менее эффективным.

10. Сильной стороной предложенных этимологий (в NS их 188, в моей картотеке более 1 000) является то, что они предполагают *гораздо меньшие фонетические изменения*, чем предлагавшиеся ранее. Так, *doro=bō* 'вор': *tor=и* 'брат' я сопоставляю с *E joromo=, joroku=, Mal djarah, Jav tjolon* 'красть', 'грабить', *Bur deerme* 'грабеж' т.е. и начальный звонкий *d=* и второе *o* объясняются влиянием других языков. А Ōtsuki Fumihiko возводит *dorobō* к *[osi]dori=bō*.<sup>17</sup> При этом появление второго *o* остается без объяснения. Наличие второго (китайского) корня говорит о том, что это сложное слово появилось в исторический период, когда под влиянием канго слова с начальным звонким появились во множестве.

11. Можно считать доказанным, что влияние алтайских и малайских языков не ограничивалось дописанным периодом, а оказало значительное влияние на лексику и позже. Видимо, такие слова из устного общения проникали сначала в диалекты, а уже потом, закрепившись там, достигли литературного языка. Было бы просто невероятно, если бы во времена чжурчженей, киданей, монгольской и маньчжурской династий в Китае отсюда продолжали бы поступать только чисто китайские (и санскритские) слова. В средние века японские суда плавали и на Юг.

12. "Слабым" местом предложенной теории является признание *принципиальной невозможности* полных фонетических соответствий для ряда *RR*. Если различия между *RR* являются уникальными, свойственными в основном данному языку, то надо удивляться не тому, что полных соответствий им в других языках сравнительно мало, а тому, что они все-таки есть. Именно этот факт и является самым убедительным доказательством родства урало-алтайских языков с корейским и японским, наряду с общими фонетическими законами, сингармонизмом *AJ*, открытым Хасимото Синкити, сходством синтаксического строя и т.д.

13. Учение о фонетических типах корней дает возможность сопоставлять по значению даже слова, не имеющие ни одной общей фонемы, вроде *tubo* и *kame* 'горшок'. И вообще определение фонемы с точки зрения учения о *RR* подлежит уточнению, так как от замены одной фонемы другой в

<sup>16</sup> Shirō Hattori, *An Ainu Dialect Dictionary*, Tokyo, 1964.

<sup>17</sup> 大槻文彦, 大言海, 3, 1941, 95 版.

**RR** значение не утрачивается вовсе, а лишь несколько видоизменяется.

14. После установления всех типов **J** слов, многие даже неизвестные слова можно было бы примерно определить по значению. Так, *sima* 'остров' (~*K sōm* 'остров,' *Ainu suma* 'камень,' *Bur somoo* 'стог,' 'куча,' 'груда') из системы может быть понят как предмет, находящийся внизу, у воды (ср. *simo* 'низ,' 'низовые реки,' *simi*= 'проникать,' 'просачиваться,' *simeri* 'слизь' и т.п.), даже окруженный со всех сторон водой (ср. *sim=ar=u* 'быть сжатым').

15. До сих пор японский язык преподается как изолированный, а каждый его корень, как не имеющий связи с другими. Думаю, что не только иностранцам, но и самим японцам, начиная с начальной школы, следовало бы преподносить "чисто японский слой лексики" как систему, а не как "кун=ные чтения" того или иного иероглифа, не связанные с другими. Как мнемонический прием, создающий систему так недостающих изучающему японский язык ассоциаций, **RR** незаменимы.

Учение о "звуковом типе слов" выдвинуто в работе проф. В.И. Абаева.<sup>18</sup> Его положение, что "слова звукового типа *kbl* обозначают круглое в самых различных языках" подтверждаются материалом японского языка: осет. *k'ubal*~*AJ kubi* 'шея,' 'голова.' Тоже тип *tm(b)l*: осет. *tymbyl*~*tubura* 'круглый,' *Mal tombol* 'выпуклость,' *Tk tombul* 'округленный,' 'полный.'

Ряд ценных сопоставлений **AJ** корней с алтайскими содержится в работе проф. Р. А. Миллера,<sup>19</sup> которая сильно выиграла бы от привлечения и малайского материала. Так, возводя *kai* к \**kaji*, следовало бы упомянуть и *Mal kayuh* 'весло.' Нельзя отрицать и связи с *kaki* 'скрести,' *kaju* 'чешется,' которые являются **RR**.

Проф. Одзава Сигэо провел обстоятельное сравнение со всеми монгольскими языками.<sup>20</sup> Первый в Японии он подметил закон "перелома гласного *i*" (стр. 325-338).

"Древнетюркский словарь"<sup>21</sup> дает много нового систематизированного материала по всем памятникам до монгольского нашествия. Прекрасно разработаны заимствованные слова. Дальнейшая работа по сравнению **AJ** лексики с лексикой любого другого языка не может проводиться без этого словаря.

ИНСТИТУТ ВОСТОКОВЕДЕНИЯ АН СССР

<sup>18</sup> В.И. Абаев, *Историко-этимологический словарь осетинского языка*, М., 1958.

<sup>19</sup> Roy Andrew Miller, *The Japanese language*, Chicago University Press, 1967.

<sup>20</sup> 小沢重男, 古代日本語と中世モンゴル語—その若干の単語の—比較研究, 東京, 風間書房, 1968.

<sup>21</sup> *Древнетюркский словарь*, Изд-во "Наука," Ленинград, 1969.

# SEMANTICS IN GENERATIVE GRAMMARS

S. K. ŠAUMJAN

A generative grammar is simultaneously a mathematical and linguistic object. As a mathematical object generative grammar should be regarded as a particular case of calculus. As a linguistic object generative grammar is a hypothesis of the inner structure of language, i.e. a hypothesis concerning the mechanism of phrase synthesis.

In connection with the hypothetical nature of generative grammars it becomes necessary to work out criteria for choosing between different generative grammars.

Obviously, the first condition which any generative grammar must satisfy is that it possesses sufficient generative capacity with respect to natural languages. From the point of view of this seemingly self-evident condition N. Chomsky investigated three types of generative grammars: finite state grammars, IC—grammars and transformational grammars.

Chomsky showed that only transformational grammars possess sufficient generative capacity with respect to natural languages. However, it must be pointed out that the higher generative capacity of transformational grammars is due to the removal of the formal limitations imposed upon the other types of generative grammars rather than to elaboration of any specific formal apparatus. In the final analysis the formal conditions for transformational grammars prove to be so general that they can generate any set of objects. Thus, however paradoxical it may seem, the higher generative capacity of transformational grammars results from their linguistic emptiness, i.e., stems from the use of a system wherein everything is permissible. Hence, transformational grammars constructed for concrete languages have no substantial bonds except for a very general common form. Therefore, transformational grammars of concrete languages are built independent of one another.

We thus arrive at a vicious circle: the facts of a given language are derived from a transformational grammar constructed specially for that language, but this transformational grammar is based only on the facts of that language.

No scientific hypothesis is justifiable unless it can be used to deduce not only the facts it was created to explain, but other facts beyond these as well. Thus a generative grammar as a linguistic hypothesis concerning the facts of a given language is justifiable only if it can explain the facts not only of that language but of other languages as well.

The history of science shows that the first step in overcoming fundamental difficulties which appear in any particular branch of knowledge is very often the challenging of seemingly self-evident facts lying at the basis of that branch of knowledge. Applying

this thesis to the study of criteria for choosing between generative grammars we should question the seemingly self-evident postulate that generative grammars must directly generate natural languages.

Let us postulate that it is not necessary for any generative grammar to generate natural languages directly. Simultaneously, we assume the generative process to be a two-level process. According to this assumption, the first level of the generative process involves generation of language called a genotype language, from which natural (phenotype) languages are subsequently derived, this being the second level of the generative process.

The two-level principle of generation makes it possible to pass from generative grammars built for a given language to generative grammars meant to generate genotype languages from which different natural languages can be derived. Hence, the two-level principle makes it possible adequately to raise the question of creating generative grammars as hypotheses of the inner linguistic mechanism by which phrases of a language are synthesized. Since any genotype language is a system of language universals, any generative grammar must be considered a theory of language universals. And now the task becomes to work out criteria for choosing between theories of language universals.

A new generative grammar model based on the two-level principle and called "The applicational model" was suggested by me in 1961. The specific feature of the applicational model distinguishing it from all other types of generative grammars is that it is a theory of language universals. The applicational model first generates a genotype language which in its turn generates phenotype (natural) languages at the second level of the generative process.

An essential formal property of generative grammars is that they must distinguish two types of derivation which we call simple derivation and field derivation. Differentiation between simple and field derivation was first introduced in the two-level theory of generative grammars and was realized in the applicational model. In accordance with this differentiation the applicational model distinguishes between two types of phrase generators—the simple phrase generator and the field phrase generator (generator of phrasal transformational fields). The simple phrase generator enables generation of any phrase of the language. A phrase of any degree of complexity can be obtained by repeated application of certain rules to elementary phrases of an initial set, each separate derivation yielding a single phrase. However, phrases can be generated without applying generative rules to the initial set of phrases but by direct transformation of one phrase into another. In this case a phrase of any degree of complexity may be taken as the initial object, and this initial object generates not a single phrase but a whole set of phrases, called a phrasal transformational field. Hence, a field derivation is a multiple derivation, whereas a simple derivation is a single derivation.

By introducing certain restrictions we transform the phrasal field into a semantic

generator of synonymous structures (called bound T-generator) which, though it remains a component of the applicational model, also plays an independent role. The input of this semantic generator is any semantic invariant represented as a semantic tree. Multiple transformations of the input semantic tree produce as the output of the semantic generator a set of synonymic structures whose invariant is the input semantic tree.

Chomsky's transformational model lacks the notions of multiple derivation and transformational field. Because of this there is a fundamental difference between the use of transformations in the transformational model and their use in the applicational model. In the transformational model transformations are used for simple derivation as a supplementary means of generating phrases, because the immediate constituent model (which is contained within the transformational model) is inadequate for this purpose. The applicational model does not need transformations for simple derivation since the operation of application alone is capable of generating any phrase. Here transformations are used for the multiple derivation of phrases constituting a transformational field. As a result we have a semantic generator which produces as its output a maximal number of synonymic expressions.

Introduction of the T-field and the semantic generator into generative grammar confronts the latter with a new task of substantial importance for cognition of the communicative features of language. N. Chomsky sets generative grammar the task of synthesizing well-formed phrases. However in the process of communication an essential role is played by the mechanism by which the meaning of the phrases is understood. What does understanding imply? To understand the meaning of a phrase implies the ability to paraphrase it by means of a set of other phrases equal to the initial one in meaning. Hence, generative grammar is faced with a new task, that of generating the periphrases of a given phrase. This is precisely what the semantic generator of the applicational model does.

All this makes it possible to pose the question of the relation between syntax and semantics in generative grammar in a new light.

According to the theory developed by N. Chomsky, J. J. Katz, P. Postal and others, a generative grammar has three components:

- 1) a syntactic component which generates syntactic categories, each having a deep and a surface structure;
- 2) a semantic component which assigns a semantic interpretation to the deep structure;
- 3) a phonological component which assigns a phonological interpretation to the surface structure.

It is evident that the theory of N. Chomsky and his school reduces the role of semantics to that of an interpretative component. But treatment of semantics as an interpretative component cannot provide an adequate basis for linguistic meanings to become a separate object of study. To make linguistic meanings capable of being a special object

of study it is necessary to determine the specific relations and operations characteristic of the semantic sphere of language.

Each language has grammatical and lexical morphemes, the former having grammatical and the latter lexical meaning.

An important task of modern linguistics is the search for efficient methods of studying grammatical meanings and their correlation with lexical meanings. These methods may differ greatly depending on the nature of the grammatical system to which they are applied. As to the applicational grammar, the matter stands as follows.

The applicational grammar is based on the calculus of lexico-grammatical functions called relators (the term "function" being used in the mathematical sense). For languages of the Indo-European type five principal lexico-grammatical functions may be accepted:  $R_1$  (verbal function),  $R_2$  (substantive function),  $R_3$  (adjectival function),  $R_4$  (pre-verb adverbial function),  $R_5$  (pre-adjective adverbial function). These functions are written as formulas of the type  $R_i X$  where  $R$  is the lexico-grammatical function or  $R$ -operator (relator),  $X$  the argument of the lexico-grammatical function ( $R$ -operand) and  $R_i X$ , the value of the lexico-grammatical function (the  $R$ -image).

At the abstract level we have to do with global objects. Take, for instance,  $R_2 X$ . If we substitute the lexical object "учить" for  $X$  ("учить" is not an infinitive but a conventional sign of a verbal notion in its abstract form) we obtain  $R_2$  "учить."

This  $R$ -image is a global object which includes such objects as "учение," "учитель," "ученик," "училище," etc. At the abstract level all these objects are components of a single object represented by the formula  $R_2$  "учить." Depending on the concrete lexical objects substituted for  $X$  in the formula  $R_2 X$  we obtain different  $R$ -images of different degrees of complexity. The task is to carry out a systematic study of the structure of these  $R$ -images and establish their hierarchy<sup>1</sup>. A further task at the abstract level is to pass over to combinations of  $R$ -images, i.e. to phrases and transformational fields.<sup>2</sup>

Each relator should be regarded as an abstraction of a set of concrete lexico-grammatical functions, i.e.

$$R_i = R_i^1, R_i^2, \dots, R_i^n.$$

This brings up a new task, that of a systematic study of concrete lexico-grammatical functions in the generative process.

In connection with this one may ask: if both lexical and grammatical morphemes possess meanings then what distinguishes semantics from grammar?

It would be groundless to define semantics as a branch dealing with the lexical aspects of language because grammatical morphemes also have meanings and it is hardly

<sup>1</sup> For an example of such a study see—С.К. Шаумян и П.А. Соболева. "Основания порождающей грамматики русского языка," *Введение в генотипические структуры*. Изд. "Наука," М., 1968.

<sup>2</sup> С.К. Шаумян. *Структурная лингвистика*, Изд. "Наука," М., 1965, also С.К. Шаумян и П.А. Соболева, *op. cit.*

reasonable, or even possible to study the meanings of lexical and grammatical morphemes independently of one another.

There is an opinion that the subject matter of modern semantics is the value of predicative expression, i.e. expression which consists of the names of predicates the places of which are filled by the symbols of individual variables.

In view of what was said above this definition refers to syntax rather than semantics. Indeed, the attention of modern syntax has been centered around the value of predicative expression, but semantics has nothing to do with it.

Obviously, the definition of semantics should not proceed from an opposition of semantics and grammar but rather from an opposition of semantics and syntax.

The applicational model makes it possible to solve the problem of the interrelation between syntax and semantics as specific domains of generative grammar. The purpose of syntax is to generate grammatical phrases. The purpose of semantics is to generate classes of phrases of equal meaning (such classes of phrases are called semantic fields). The semantic domain of language is characterised by the relation of equality of meaning. The semantic calculus is a calculus of phrases related by equality of meaning. By equality we mean a reflexive, symmetrical and transitive relation.

Thus, in the applicational model syntax and semantics are defined as follows:

Syntax is the theory of generating grammatical phrases.

Semantics is the theory of generating classes of phrases related by equality of meaning.

INSTITUTE OF THE RUSSIAN LANGUAGE, ACADEMY OF SCIENCES, U. S. S. R.



# PERSONAL AFFIXES IN THE SARU DIALECT OF AINU

SUZUKO TAMURA

§ 0. The concept of person ('I', 'we', 'me', 'us', etc.) is expressed by means of "personal affixes" in the Ainu language.

John Batchelor, a pioneer in Ainu linguistics, overlooked the grammatical difference between personal pronouns and personal affixes, and called both by the same term "pronoun."<sup>1</sup> The first work to distinguish between them was Kindaichi's "Ainu yūkara gohō tekiyō"<sup>2</sup> and reference to them has often appeared in his later works and in works by the late Chiri Mashiho.

The present author dealt to some extent with the personal affixes in the Saru dialect in her "Ainugo no dōshi no kōzō"<sup>3</sup> and "Ainugo Saru hōgen no jodōshi."<sup>4</sup> Some reference to the morphophonemic alternation rules governing personal affixes was made in her "Ainugo Saru hōgen no meishi, sono 2."<sup>5</sup>

The present paper is an attempt at an overall description of the morphology of the personal affixes in the Saru dialect of Ainu.

## Contents:

1. A list of personal affixes in the Saru dialect
2. Uses of personal affixes
3. Morphophonemic alternations that occur in their affixation
  1. Simple affixation
  2. Nominative-objective affixation
4. Relative order of the personal affixes and other forms which occur together with them.

---

<sup>1</sup> John Batchelor, *An Ainu-English-Japanese Dictionary*, 4th edition (Iwanami Shoten, 1868) and other works.

<sup>2</sup> Kindaichi Kyōsuke, "Ainu yūkara gohō tekiyō (Essentials of the grammar of Ainu yūkara)" in his *Ainu jojishi yūkara no kenkyū* (Studies in yūkara, Ainu epics) II (Tōyō Bunko, 1931).

<sup>3</sup> Fukuda Suzuko, "Ainugo no dōshi no kōzō (The construction of the verbs in Ainu)" in *Gengo Kenkyū* (Journal of the Linguistic Society of Japan), Vol. 30 (1956). Fukuda is the maiden name of the present author.

<sup>4</sup> Fukuda Suzuko, "Ainugo Saru hōgen no jodōshi (Verbal particles in the Saru dialect of Ainu)" in *Minzokugaku-Kenkyū* (The Japanese Journal of Ethnology), Vol. 24, No. 4 (1960).

<sup>5</sup> Tamura Suzuko, "Ainugo Saru hōgen no meishi, sono 2 (Nouns in the Saru dialect of Ainu, 2)" in *Waseda Daigaku Gogaku Kyōiku Kenkyūjo Kiyō* (Bulletin of the Institute of Language Teaching, Waseda University), Vol. 4 (1965).

## 1. A LIST OF PERSONAL AFFIXES IN THE SARU DIALECT

person	personal affix		personal pronoun
	nominative	objective	
1st pers. sg. «I»	ku- (1)	'en- (2)	káni
1st pers. pl. exclusive «we»	ci-, -'ás (3)	'un- (4)	cóka
1st pers. pl. inclusive «we»	'a-, -'án (5)	'i- (7)	'a'oká
1st pers. sg. in quotation «I»	'a-, -'án (5)	'i- (7)	'asinúma
1st pers. pl. in quotation «we»	'a-, -'án (5)	'i- (7)	'a'oká
2nd pers. sg. «you»	'e- (9)		'e'áni
2nd pers. pl. «you»	'eci- (10)		'eci'oká
2nd pers. honorific «you»	'a-, -'án (5)	'i- (7)	'a'oká
3rd pers. sg. «he, she»	φ		sinúma
3rd pers. pl. «they»			'oká
indefinite person «one»	'a-, ('án) (5, 6)	('i-) (8)	

Nominative and objective personal affixes<sup>6</sup> are listed above. Personal pronouns are also shown for the sake of convenience in understanding the correspondences between pronouns and affixes.<sup>7</sup>

The figures indicate the subsection where each affix is dealt with in §3.1.

The affixes 'a-, -'án, 'i-, and the pronoun 'a'oká, which appear from three to five times each in the above table, are homonyms. They are listed as different forms as they have different meanings.

## 2. USES OF PERSONAL AFFIXES

Some personal affixes have two different forms depending on their syntactic environment. One is called "nominative"<sup>8</sup> and the other "objective."

Nominative personal affixes are affixed

(a) to verbs and indicate the performer of the action.

As mentioned in the author's "Ainugo no dōshi no kōzō," Ainu verbs can be clas-

<sup>6</sup> See § 2.

<sup>7</sup> Personal pronouns and the "persons" will be dealt with in the author's "Ainugo Saru hōgen no ninshō daimeishi (Personal pronouns in the Saru dialect of Ainu)," which is now in the course of preparation.

<sup>8</sup> The term "subjective," which the author used in her previous articles, used to be common in Ainu linguistics. But "nominative," used by Professor Hattori in his "Ainugo Karafuto hōgen no ninshō setsuji ni tsuite (Personal affixes in the Sakhalin dialect of Ainu)" in *Gengo Kenkyū*, Vol. 39 (1961), may be more appropriate.

sified according to their main function as follows:

Verbs which cannot take a subject (One can say that both the subject and the predicate are involved in a verb.)	
e.g. <i>mé'án</i> «it's cold», <i>sirpírka</i> «it's fine» .....	1
Verbs which can take a subject (Most verbs belong to this group.)	
Verbs which cannot take any object (intransitive verbs)	
e.g. <i>mína</i> «to laugh» .....	2
Verbs which can take one object	
e.g. <i>kíkkik</i> «to hit» .....	3
Verbs which can take two objects	
e.g. <i>koré</i> «to give» .....	4
Verbs which can take three objects	
e.g. <i>korére</i> «to make (someone) give» .....	5

It is theoretically possible that a verb which can take four or more objects is formed by some affixation or other, but the author has never come across one.

Nominative personal affixes can be affixed to all the verbs except for the first group above.

- e.g. 1) *mína* «to laugh»  
*ku-mína* «I laugh»
- 2) *koré* «to give»  
*ku-kóre* «I give»
- (b) to the belonging form of nouns,<sup>9</sup> and indicate the person the thing belongs to.
- e.g. 3) *ték* «hand»  
*tekéhe* (belonging form) «... 's hand»  
*ku-tékehe* «my hand»
- 4) *yúp* «older brother»  
*yupíhi* (belonging form) «... 's older brother»  
*ku-yúpihi* «my older brother»
- (c) to some adverbs (special uses).
- e.g. 5) *rénkayne* «by one's own intention, as one likes»  
*ku-rénkayne* «by my own intention, as I like»
- 6) *'opítta* «all»  
*c-ópitta* «we all, all of us»

Objective personal affixes are affixed

(a) to transitive verbs (groups three, four and five above), and indicate the object or the receiver of the action. Both direct and indirect objects in English and other languages are expressed by objective personal affixes in Ainu.

<sup>9</sup> As to the concept, uses and formation of the belonging form of the noun, see Tamura, "Ainugo Saru hōgen no meishi, sono 1 and sono 2 (Nouns in the Saru dialect of Ainu, 1 and 2)" in *Bulletin of The Institute of Language Teaching, Waseda University*, Vol. 3 (1964) and Vol. 4 (1965).

- e.g. 7) *kikkik* «to hit»  
       *'én-kikkik* «to hit me»  
 8) *koré* «to give»  
       *'én-kore* «to give (it) to me»

(b) to position nouns<sup>10</sup> and indicate the object of the positional relation.

- e.g. 9) *córpok* «under»  
       *'én-corpok* «under me»  
 10) *téksam* «side»  
       *'én-teksam* «my side»

(c) to postpositional adverbs and indicate the object of the relation.

The postpositional adverbs used to be classified as particles. The author, however, regards them as belonging to a subclass of the adverb. Only a limited number of forms with very low independence are called "particles" by the author.<sup>11</sup>

- e.g. 11) *'ós* «after»  
       *'en-ós* «after me»

In all these six cases, the use of the personal affixes (1)–(10) in the list in §1 is obligatory. This is a characteristic of personal affixes, in contradistinction to personal pronouns and nouns, which can be omitted in many cases if it can be understood who the speaker means from the context or situation. For example,

- 12) *'iyápo mína* «Father laughs.»  
 or 13) *'iyápo hápo kikkik* «Father hits mother.»

is normally abbreviated into

- 14) *mína* «(He) laughs.»  
 or 15) *kikkik* «(He) hits (her).»

if it is clear from the context or situation that the speaker is talking about the father's action or the father's action towards the mother. Personal affixes cannot be omitted, and the forms without personal affixes would be understood as being third person.

### 3. MORPHOPHONEMIC ALTERNATIONS THAT OCCUR IN AFFIXATION OF PERSONAL AFFIXES

#### § 3.1. Simple affixation

When a personal affix is affixed to a stem, there occur certain morphophonemic alternations, which are common to all of the cases stated in §2.

The alternations both of segmental phonemes and of prosodeme that occur in the affixation of each personal affix will be shown in the order in which they occur in § 1.

<sup>10</sup> A group of nouns expressing positional relation in time and space, such as on, under, before or after, have some common functions, and the author calls them "position nouns." Their functions and uses will be discussed in another article.

<sup>11</sup> "Ainugo Saru hōgen no jodōshi" (footnote 4 above).

### § 3.1.1. First person singular nominative: *ku-* (/kU-'/)

Segmental phoneme: Either /ku-/ or /k-/ occurs depending on the phonemic status of the first part of the stem (See a—d below.)

Prosodeme: One prosodeme is carried by the whole personal form (a form with a personal affix). Since this is true of most of the other personal affixes, too, it will not be repeated hereafter. When this is not the case, that is, when a personal affix has its own prosodeme, then it will be explicitly mentioned.

The accent kernel is required on the first syllable of the stem.

(a) When it is affixed to a stem beginning either with a consonant /C/ which is not /' / (where the first syllable may be closed or open), or with a syllable /'iC/ (i.e. a closed syllable beginning with /'i/):

Segmental phoneme: affix: *ku-* (= /kU-'/) → /ku-/

Prosodeme: The accent kernel falls on the second syllable.

e.g. 16) *ku-* + /kíkik/ → /kukíkik/

to hit I hit

17) *ku-* + /tekéhe/ → /kutékehe/

... 's arm my arm

18) *ku-* + /'íkkewehe/ → /ku'íkkewehe/

... 's waist my waist

There is a general rule of accentuation in this dialect, that any prosodic unit (a form with a prosodeme) beginning with a closed syllable has its accent kernel on the first syllable. Also there is a fairly predominant tendency for a prosodic unit beginning with an open syllable to have its accent kernel on the second syllable in most cases. Consequently it is possible to say that in affixation of a prefix which consists of just one open syllable the accent kernel does not shift if the stem begins with a closed syllable, while it usually moves back one syllable if the stem begins with an open syllable. The prosodic alternation shown above is a typical one.

(b) When it is affixed to a stem beginning with /'V/ where /V/ is not /i/ (where the first syllable may be open or closed), in other words, to a stem beginning with /'a/, /'e/, /'o/ or /'u/:

Segmental phoneme: affix: *ku-* → /k-/

stem: /' / → /0/ (i.e. /' / is dropped.)

/k/, the prefix, and /V/ or /VC/, the first syllable of the stem, form a single syllable /kV/ or /kVC/.

Prosodeme: Since the first syllable of the stem is now contained in the first syllable of the personal form, the accent kernel falls on the first syllable of the personal form.

e.g. 19) *ku-* + /'onáha/ → /kónaha/

... 's father my father

20) *ku-* + /'árpa/ → /kárpa/

to go I go

The case shown in example 19 is a deviation from the strong tendency of accentuation

mentioned in (a) above. All the others given so far conform to the rule and the tendency mentioned above.

Forms like /kónaha/, /kárpa/, etc. are obviously the results of historical change from \*/ku'ónaha/, \*/ku'árpa/, etc. The old form /ku'V.../ is preserved in all the other dialects, where the position of the accent kernel conforms to the predominant tendency in each dialect. Even in Saru the form /ku'V.../ in place of /kV.../ occasionally occurs in poetry. For example, the following is a part of a folk song in Saru "cikáp ta kuné, réra ta kuné (I wish I were a bird, I wish I were the wind)":

21)	...	...
	<i>kukór kotán 'un</i>	I want to go
	<i>ku'árpa rusuy</i>	to my village.
	...	...
	<i>ku'ésikarun.</i>	I want to see him.
	...	...
	<i>tapán 'uske ta</i>	As I am here
	<i>ku'án wa né kor</i>	at this place
	...	...

Here we find /ku'árpa/ «I go», /ku'ésikarun/ «I want to see» and /ku'án/ «I am», which would normally be /kárpa/, /kés(i)karun/ and /kán/, respectively.

(c) When it is affixed to a stem beginning with an open syllable /i/ which is not followed by /y/ (case (d) below):

Segmental phoneme: affix: *ku-* → /ku-/

stem: /i/ → /y/

/ku/ and /y/ are combined to give a closed syllable /kuy/.

Prosodeme: The accent kernel falls on the first syllable /kuy/.

e.g. 22) *ku- + 'ipé/ → (\*ku'ípe/ →) /kúype/*

to eat

I eat

(d) When it is affixed to a stem with the first four phonemes /'iyV/, i.e. when the first syllable of the stem is /i/ and the initial consonant of the second syllable is /y/ (The forms with this shape are in fact derived verbs with a prefix /i/ affixed to a stem beginning with /'V/, with one exception which will be given later):

Segmental phoneme: affix: *ku-* → /ku-/

stem: /'iy/ → /y/

Here the /y/ becomes the initial consonant of the second syllable of the personal form.

Prosodeme: The accent kernel falls on the second syllable. Since all the forms with the shape /'iyV.../ has their accent kernel on the second syllable /yV/ or /yVC/, it can be said that the accent kernel stays on the same syllable as in the stem.

e.g. 23) *ku- + 'iyómap/ → /kuyómap/*

to love children I love children

/'iyómap/ is a derived intransitive verb composed of a prefix /i- «things or people in

general» and a transitive verb 'omáp «to love».

Exception: One verb, /'iyóski/, is a weakened form of a derived verb /'ihóski/ «to be or get drunk». /'ihóski/ and /'iyóski/ are interchangeable and occur with more or less equal frequency.<sup>12</sup> *ku-* + /'ihóski/ is /kúyhoski/ according to the rule (c) above, but *ku-* + /'iyóski/ has two alternant shapes: one, /kúyyoski/, completely analogous to /kúyhoski/, and the other, /kúyoski/, with the double /y/ reduced into a single /y/.

### § 3.1.2. First person singular objective: 'en-

Segmental phoneme: No special alternations occur except for quite mechanical ones required by general rules.

Prosodeme: The prosodic shape of the personal forms with 'en- conforms completely to the rule and the tendency stated in §3.1.1 (a).

(a) When it is affixed to a stem beginning with /C/ which is not /' /:

Segmental phoneme: Some mechanical alternations occur which come from the following rules in phoneme arrangement:<sup>13</sup>

$$/n/ + \left\{ \begin{array}{l} /p/ \\ /m/ \end{array} \right\} \rightarrow \left\{ \begin{array}{l} /mp/ \\ /mm/ \end{array} \right\}^{14}$$

$$/n/ + /s/ \rightarrow /ys/$$

$$/n/ + /w/ \rightarrow /ww/$$

Prosodeme: The accent kernel necessarily falls on the first syllable /'en/ as it is a closed syllable.

e.g. 24) 'en- + /nukár/ → /'énnukar/  
to see to see me

25) 'en- + /mósma/ → /'émmosma/  
other than other than me

26) 'en- + /sitáyki/ → /'éysitayki/  
to strike to strike me

27) 'en- + /wénte/ → /'éwwente/  
to destroy to destroy me

(b) When it is affixed to a stem beginning in /'V/, where the first syllable may be

<sup>12</sup> It is possible that /'ihóski/ might have a more formal or more old fashioned connotation, but this has not yet been checked with native speakers.

<sup>13</sup> The general rules for alternation in phoneme arrangement have been presented to some extent by Kindaichi and Chiri in Kindaichi's "Ainu yūkara gohō tekiyō" (footnote 2 above), Kindaichi and Chiri, *Ainu gohō gaisetsu* (An outline of Ainu grammar) (Iwanami Shoten, 1936), Chiri, "Ainu gohō kenkyū" in *Karafutochō Hakubutsukan hōkoku* (Reports from Sakhalin Prefectural Museum), No.4 (1942), and other works by these authors. Both Kindaichi and Chiri have dealt with the rules for synchronic alternation seen in many different dialects and the rules for historical changes but they dealt with them without distinguishing which was which. The author attempted to distinguish between them in her B.A. thesis in 1955, which is, however, as yet unpublished.

<sup>14</sup> This rule is only necessary and valid if one accepts the author's phonemic interpretation of the syllable's final nasal.

open (/V/) or closed (/VC/):

Segmental phoneme: stem: /' / → /0/

The /n/ in the prefix /'en-/ becomes the initial consonant of the second syllable.

Prosodeme: The accent kernel falls on the second syllable.

e.g. 28) 'en- + /'omáp/ → /'enómap/  
to love to love me

### § 3.1.3. First person plural exclusive nominative: *ci-* (/cI-/) and *-'ás*.

Whether the prefix *ci-* or the suffix *-'ás* occurs depends upon the grammatical status of the stem:

*ci-* is prefixed to all transitive verbs, the copula *né* «to be», nouns and adverbs.

*-'ás* is suffixed to all intransitive verbs except for the copula *né*.

#### § 3.1.3.1. Prefixation of *ci-*

The alternation rules are analogous to those in prefixation of *ku-* (§3.1.1).

Segmental phoneme: Either /ci-/ or /c-/ occurs depending on the phonemic shape of the first part of the stem.

Prosodeme: The accent kernel falls on the first syllable of the stem.

(a) When it is affixed to a stem beginning with /C/ which is not /' /:

Segmental phoneme: affix: *ci* (= /cI-/) → /ci-/

Prosodeme: The accent kernel falls on the second syllable.

e.g. 29) *ci-* + /nukár/ → /cinúkar/  
to see we see

30) *ci-* + /kíkkik/ → /cikíkkik/  
to hit we hit

(b) When it is affixed to a stem beginning with /'V/:

Segmental phoneme: affix: *ci-* → /c-/

stem: /' / → /0/

/c/, the prefix, and the /V/ or /VC/, the first syllable of the stem, form a single syllable /cV/ or /cVC/.

e.g. 31) *ci-* + /'onáha/ → /cónaha/  
... 's father our father

e.g. 32) *ci-* + /'íkkewehe/ → /c'íkkewehe/  
... 's waist our waist

Cf. example 18, where /ku-/ rather than /k-/ occurs before /'íkkewehe/.

#### § 3.1.3.2. Suffixation of *-'ás*

Segmental phoneme: No alternation occurs except for a phenomenon which will be mentioned at the end of this section.

Prosodeme: *-'ás* has a prosodeme to itself, and it does not change the position of the accent kernel in the stem. In this respect the form with this suffix looks like a sequence



of two independent words.

e.g. 33) /'ipé/ + -'ás → /'ipé'ás/  
to eat                      we eat

34) /mína/ + -'ás → /mína'ás/  
to laugh                      we laugh

As a general rule, when two forms, each of which has a prosodeme, are closely combined into one form—such as compound words, modifier + noun, or verb + auxiliary—, the accent kernel of the first form becomes primary and that of the second form, secondary. A secondary accent kernel is weaker, and often disappears so that the resulting compound form has one prosodeme with an accent kernel on a syllable of the first form.

The accent kernel of the suffix -'ás is most easily lost when the stem consists of one closed syllable. This is applicable also in the suffixation of -'án, which will be discussed later in §3.1.5.2. In this case the /' / in /-'ás/ is dropped and the final /C/ of the stem becomes the initial consonant of the second syllable /Cas/.

e.g. 35) /cís/ + -'ás → /cís'ás/ → /císas/  
to cry                      we cry

#### § 3.1.4. First person plural exclusive objective: 'un-

The alternation rules here are completely analogous to those in the case of 'en- in §3.1.2.

**Segmental phoneme:** Some mechanical alternations are required by general rules.

**Prosodeme:** The prosodic shape of personal forms with 'un- is determined by the rule and the tendency stated in §3.1.1 (a).

(a) When it is affixed to a stem beginning with /C/ which is not /' /:

e.g. 36) 'un- + /nukár/ → /'únnukar/  
to see                      to see us

37) 'un- + /mósma/ → /'úmmosma/  
other than                      other than us

38) 'un- + /sitáyki/ → /'úysitayki/  
to strike                      to strike us

The author has still to study the alternation that occurs when the initial consonant of the stem is /w/. From the general rule mentioned in §3.1.2, “/n/ + /w'/ → /ww/,” it is expected that 'un- will be /'uw-/ before /w/. The sequence /uw/ in a syllable, however, is not permitted in the phoneme arrangement system in this dialect (and probably not in other dialects, either). It would be interesting to discover what actually occurs in the case of, say, 'un- + /wénte/ «to destroy».

#### § 3.1.5. First person plural inclusive

First person singular in quotation

First person plural in quotation

}nominative: 'a-, -'án

Second person honorific

Indefinite person

]

The alternation rules governing the nominative affixes of these five persons will be treated here all together since they are common to all these five persons, except for a special phenomenon seen in the indefinite person, which will be discussed in § 3.1.6.

The choice between the prefix *'a-* and the suffix *-'án* depends on the nature of the stem. It is parallel to the choice between *ci-* and *-'ás* in the first person plural exclusive nominative affix (§3.1.3):

*'a-* is prefixed to transitive verbs, the copula *né* «to be», nouns and adverbs.

*-'án* is suffixed to intransitive verbs except for the copula *né*.

#### § 3.1.5.1. Prefixation of *'a-*

Segmental phoneme: No alternation occurs except for the weakening of vowels which will be shown at the end of the discussion of this prefix.

Prosodeme: *'a-* does not change the position of the accent kernel in the stem. But *'a-* itself is not a prosodic unit; the whole personal form has one prosodeme. Accordingly, the affixation of *'a-* results in an exceptional prosodic shape.

As mentioned in §3.1.1 (a), there is a rule (for words beginning with a closed syllable) and a predominant tendency (for words beginning with an open syllable) in the prosodic system. Here it is necessary to add one thing to the statement about the tendency:

“A prosodic unit beginning with an open syllable most commonly has its accent kernel on the second syllable. Otherwise it has it on the first syllable.”

But a personal form with *'a-* has its accent kernel either on the second or on the third syllable, depending on the prosodic shape of the stem. Such a deviation, one in which an accent kernel goes beyond the second syllable of a prosodic unit, occurs only in personal forms with *'a-* or *'eci-* (§3.1.10).

e.g. 39) *'a-* + /kíkkik/ → /'akíkkik/

to hit we (incl.) hit, you (hon.) hit, etc.

40) *'a-* + /'onáha/ → /'a'onáha/

... 's father our (incl.) father, your (hon.) father, etc.

Weakening of /'i/ and /'e/: When *'a-* is prefixed to a stem beginning with the open syllable /'i/ or /'e/ without the accent kernel, the personal form /'a'i.../ or /'a'e.../ occurs only in slower, clearer pronunciation. In ordinary rapid speech the /'i/ or /'e/ is weakened, becoming the secondary element of a diphthong and results in the personal form /'ay.../. This weakening should be considered in relation to the prosodic shape.

Here it might be useful to refer to the character of the phoneme /' / first. The phoneme /' / corresponds to the glottal stop or glottal tension in the initial position, between two identical vowels, before a closed syllable, and/or before a syllable with the accent kernel. In the other environments—i.e. before an open syllable without the accent kernel and, at the same time, with the vowel different from the vowel in the preceding syllable—/' / has no specific sound value. It corresponds merely to the

<sup>15</sup> See Fukuda, "Ainugo Saru hōgen no jodōshi" (See footnote 4 above).



- e.g. 51) *tókapmokor 'éytasa ku-kí kor . . .*  
 52) *tókapmokor 'éytasa ci-kí kor . . .*  
 53) *siyéye ka somó ku-kí*  
 54) *siyéye ka somó ci-kí*

In the following example the verb *sinót* is playing completely the role of a noun, for it is normally only the noun that can be connected in apposition with the word *hemánta* «what».

- e.g. 55) *hemánta sinót 'oró ta 'án 'e'áskay pe né yak 'ayé.*  
 what to play there possible fact it is that one says  
 «It is said that you can play (go boating) there, but I doubt it.»

We can probably infer from these facts that the *-'án* used in the case of the indefinite person was nothing but a verb *'án* «to exist, there is» in old Ainu. It may be possible to conjecture further that all the homonymous personal suffixes *-'án*, which were considered different forms in §1 because of their difference in meaning, have one and the same origin, and the function it used to have when it was a verb is retained most fully in the indefinite person.

In addition, the prefix *'a-* in this dialect, which shows the complementary distribution with *-'án*, corresponds to the prefix *'an-* in many other dialects, and this *'an-* in other dialects, like *'a-* in the Saru dialect, does not move the accent kernel in the stem. It is probably all right to infer from this correspondence and the prosodic characteristics of the *'a-* and the *'an-*, that these prefixes originate from one and the same form as the suffix *-'án*, which seems to originate from one and the same form as the verb *'án*.

- |  |                                 |
|--|---------------------------------|
| § 3.1.7. First person plural inclusive | } objective: <i>'i-</i> (/i-'/) |
| First person singular in quotation     |                                 |
| First person plural in quotation       |                                 |
| Second person honorific                |                                 |

As seen in §1, not only the nominative affixes but also the objective affixes are mutually homonymous in these four persons. The alternation rules are also common to all of them. The indefinite person nominative affix was dealt with partially in the same section (§3.1.5) as the persons listed above, but the problem of the indefinite person objective affix is rather different. The differences will be discussed in the next section.

Segmental phoneme: No alternation occurs in clear pronunciation. In rapid speech in ordinary conversation, when the *'i-* is affixed to a stem beginning with /*'a*/, /*'e*/, /*'o*/, or /*'u*/, the stem-initial /*'*/ often becomes /*y*/, i.e. *'i-* + /*'V*/ → /*'iyV*/, where /*V*/ is not /*i*/.

Prosodeme: The accent kernel falls on the second syllable, namely the first syllable of the stem.

- e.g. 56) *'i-* + /*kíkkik*/ → /*'ikíkkik*/  
 to hit to hit us (incl.), to hit you (hon.), etc.

- 57) 'i- + /nukár/ → /'inúkar/  
       to see       to see us (incl.), to see you (hon.), etc.
- 58) 'i- + /'omáp/ → /'i'ómap/ → /'iyómap/  
       to love       to love us (incl.), to love you (hon.), etc.

### § 3.1.8. Problem of the indefinite person objective affix

There is no objective personal affix in the indefinite person. Instead, its function is performed by a derivational prefix 'i- which has the same shape /'i-/ as those personal prefixes discussed in the preceding section.

This prefix 'i- differs from a personal prefix in that it does not result in a closed form to which no further affixation is possible. A form with a personal affix (or nominative and objective personal affixes) is almost closed and no further affixation is possible with just one exception, the suffix /-pa/ which indicates many occurrences of an action.

However, a verb with this 'i- can take other derivational affixes, such as the prefix 'e- «with», ko- «towards», or 'o- «at» which increase by one the number of the objects the verb can take:<sup>17</sup>

- e.g. 59) 'i- + /'omáp/ → /'iyómap/  
           to love       to love children
- ko- + /'iyómap/ → /koyómap/  
           towards               to be tender to someone in particular

or if the form with this 'i- (with or without a suffix) is a transitive verb, an objective personal prefix can occur before it:

- e.g. 60) 'i- + /nú/ → /'inú/  
           to hear (tr.)       to hear (intr.)
- /'inú/ + -re → /'inúre/  
           (causative)       to cause (him) to hear, i.e. to give (him)  
                                   some information
- 'en- + /'inúre/ → /'enínure/  
       (objective personal prefix)       to give me some information

Second, this 'i- differs slightly from the personal prefix 'i- in the alternation rules: when this 'i- is affixed to a stem beginning with /'a/, /'e/, /'o/ or /'u/, the stem-initial /' / always becomes /y/:

- e.g. 61) 'i- + /'omáp/ → /'iyómap/

in contradistinction to the personal prefix 'i- which does not necessarily result in this alternation (See §3.1.7).

There are some verbs which can be analyzed according to their function and meaning into the prefix 'i- and a transitive verb, and which must originate from this construction, but which, probably as the result of some historical change, do not have a shape parallel

<sup>17</sup> See Fukuda, "Ainugo no dōshi no kōzō" (footnote 3 above).

e.g. 62) 'i- + *nukár* → /'ínkar/  
to see (tr.) to look (intr.)  
(instead of \*/inúkar/)

63) 'i- + 'é → /'ipé/  
to eat (tr.) to eat (intr.)  
(instead of \*/iyé/)

e.g. 64) 'i- + /'omáp/ → /'iyómap/  
to love to love children  
(not "to love people in general")

e.g. 65) 'i- + /kú/ → /'ikú/  
to drink to drink alcoholic beverage  
(not "to drink something")

**§ 3.1.9.** Second person singular: 'e- (/e'/)

The alternations both of segmental phonemes and prosodemes seen in the affixation of 'e- are similar to those seen in the affixation of *ku-* (§3.1.1) and *ci-* (§3.1.3.1).

**Prosodeme:** The accent kernel falls on the first syllable of the stem.

(a) When it is affixed to a stem beginning with a syllable which is not an open syllable /i/ or /u/:

**Segmental phoneme:** No alternation occurs.

<sup>18</sup> See Fukuda, “Ainugo no dōshi no kōzō” (footnote 3 above).

Prosodeme: The accent kernel falls on the second syllable.

e.g. 66) 'e- + /tekéhe/ → /'etékehe/

... 's arm      your arm

(b) When it is affixed to a stem beginning with an open syllable /'u/:

Segmental phoneme: stem: /'u/ → /w/

/e/, the prefix, and /w/, the initial consonant of the stem, form a closed syllable /'ew/.

Prosodeme: The accent kernel falls on the first syllable /'ew/.

e.g. 67) 'e- + /'unúhu/ → (\*/'e'únuhu/ → ) /'éwnuhu/

... 's mother      your mother

(c) When it is affixed to a stem beginning with an open syllable /'i/ which is not followed by /y/:

Segmental phoneme: stem: /'i/ → /y/

/e/, the prefix, and /y/, the initial consonant of the stem, form a closed syllable /'ey/.

Prosodeme: The accent kernel falls on the first syllable /'ey/.

e.g. 68) 'e- + /'ipé/ → (\*/'e'ipe/ → ) /'éype/

to eat      you eat

(d) When it is affixed to a stem beginning with /'iyV/:

Segmental phoneme: stem: /'iy/ → /y/

Prosodeme: The accent kernel stays on the same position as in the stem, i.e. on the second syllable both in the stem and in the personal form: 'e- + /'iyV.../ → /'eyV.../.

e.g. 69) 'e- + /'iyómap/ → /'eyómap/

to love children      you love children

### § 3.1.10. Second person plural: 'eci- (/eci-/)

As in the second person singular affix, 'e-, there is no distinction between nominative and objective in the second person plural affix, either.

Segmental phoneme: No alternation occurs.

Prosodeme: This prefix, like 'a- in §3.1.5.1, does not change the position of the accent kernel in the stem. But it does not have a prosodeme to itself. It is just part of a prosodic unit. The whole personal form has one prosodeme.

Accordingly a deviation from the predominant prosodic tendency stated in §3.1.1(a) and §3.1.5.1 occurs here, too: a personal form with the prefix 'eci- has its accent kernel either on the third or even on the fourth syllable.

e.g. 70) 'eci- + /kíkkik/ → /'ecikíkkik/

to hit      you (pl.) hit

71) 'eci- + /'onáha/ → /'eci'onáha/

... 's father      your father

### § 3.1.11. Classification of the personal affixes according to their morphological and morphophonological characteristics



'án	}	.....may be separated from the stem.
'ás	}	.....are prosodic units.
'a-	}	.....do not change the position of the accent kernel in the stem.
'eci-	}	
ku-	}	.....are never separated from the stem.
ci-	}	.....are just part of a prosodic unit.
'e-	}	
'en-	}	.....principally make the prosodic shape conform to the general tendency.
'un-	}	
'i-	}	

### § 3.2. Nominative-objective affixation

Transitive verbs may take both a nominative and an objective affixes at the same time. Then some or other alternations occur. Brief reference to this problem was made in the author's "Ainugo no dōshi no kōzō" pp. 49-50.<sup>19</sup> Here a more detailed discussion will be attempted.

The order of affixation is:

nominative<sup>(1)</sup> prefix    +    objective<sup>(2)</sup> prefix    +    stem.<sup>(3)</sup>

In nominative-objective affixation the personal affixes are always prefixed to the stem in this dialect; no personal suffixes, such as -'án (§3.1.5) or -'ás (§3.1.3), occur here.

In Ishikari, Tokachi and some other dialects the nominative-objective affixation presents such forms as 'e-...-'an, 'eci-...-'an ('es-...-'an in Ishikari), 'i-...-'an, etc. These phenomena will be treated in other papers.<sup>20</sup>

The following table shows the approximate shape of the affixes in the nominative-objective affixation. This does not differ greatly from the table in the author's "Ainugo no dōshi no kōzō," p. 49, but a few forms have been added.

<sup>19</sup> The same kind of problem in the Sakhalin Raichiska dialect has been discussed by Professor Hattori in "Ainugo Karafuto hōgen no ninshō setsuji ni tsuite" in *Gengo Kenkyū*, Vol. 39 (1961). In the Saru dialect, there are some phenomena which differ quite a bit from those presented in the article by Professor Hattori.

<sup>20</sup> "Ainugo Ishikari hōgen ni okeru ninshō setsuji no shukaku-mokutekikaku setsugō (Nominative-objective affixation of personal affixes in the Ishikari dialect of Ainu)" will be published in the first number of *Gengo no kagaku* (Sciences of Language) (Tōkyō Gengo Kenkyūjō).

Only the representative shapes are contained in the table. The details about the alternation rules will be discussed in the later sub-sections. The numbers denote the sub-section in which each form is dealt with. Oblique lines denote that no nominative-objective affixation is possible there. Such concepts as "I . . . me (=myself)" or "you . . . you (=yourself)" are expressed by the reflexive prefix *yay-* (See §3.1.8).

objective nominative	' <i>en</i> - me	' <i>un</i> - us (excl.)	' <i>i</i> - us (incl.)	' <i>i</i> - me, us (quot.)	' <i>i</i> - you (hon.)	' <i>e</i> - you (sg.)	' <i>eci</i> - you (pl.)	
<i>ku</i> - I					kuy- <sup>(1)</sup>	<sup>(3)</sup> ' <i>eci</i> -		
' <i>ci</i> - we (excl.)					' <i>a</i> ' <i>i</i> - <sup>(2)</sup>			
' <i>a</i> - we (incl.)								
' <i>a</i> - I, we (quot.)								
' <i>a</i> - indefinite	<sup>(4)</sup> ' <i>a</i> ' <i>en</i> -	<sup>(5)</sup> ' <i>a</i> ' <i>un</i> -			<sup>(2)</sup> ' <i>a</i> ' <i>i</i> -	<sup>(6)</sup> ' <i>a</i> ' <i>e</i> -	<sup>(7)</sup> ' <i>a</i> ' <i>eci</i> -	
' <i>a</i> - you (hon.)								
' <i>e</i> - you (sg.)	<sup>(8)</sup> ' <i>en</i> -	<sup>(9)</sup> ' <i>un</i> -	<sup>(10)</sup> ' <i>ey</i> -					
' <i>eci</i> - you (pl.)	<sup>(11)</sup> ' <i>eci</i> ' <i>en</i> -	<sup>(12)</sup> ' <i>eci</i> ' <i>un</i> -	<sup>(13)</sup> ' <i>eci</i> ' <i>i</i> -					

In general, in the nominative-objective affixations (1), (2), (4), (5), (6), (7), (10), (11), (12) and (13), the resulting personal form is the result of both affixes functioning as they would in the case of simple affixation. In (3), (8) and (9), where the prefix is homonymous with one of the prefixes in the simple affixation, the alternation rules are also the same as those in the simple affixation of each homonymous prefix.

§ 3.2.1. nominative: first person singular : *ku*-  
 objective : second person honorific: '*i*-  
 Segmental phoneme : *ku* + '*i* + / . . . / → /kuy . . . /  
 (stem)

Prosodeme: The prosodic shape conforms to the rule and the general tendency mentioned in §3.1.1 (a).

(a) When they are affixed to a stem beginning with either /C/, which is not /' /, or /'i/:

Segmental phoneme: No further alternation occurs.

Prosodeme: Both *ku*- and '*i*- have the character to require the accent kernel on the syllable next to them, and they form a diphthong /kuy/ here. Consequently the accent kernel necessarily falls on the first syllable.

e.g. 72) *ku-* + *'i-* + /*nukár*/ (\**ku'inukar* →) → /*kúynukar*/  
to see I see you (hon.)

73) *ku-* + *'i-* + /*'ipére*/ → (\**ku'i'ipere* →) /*kúy'ipere*/  
to let (him) eat I let you (hon.) eat

(b) When they are affixed to a stem beginning with /*'V*/ where /*V*/ is not /*i*/ (i.e. to a stem beginning with /*'a*/, /*'e*/, /*'o*/ or /*'u*/):

Segmental phoneme: stem: /*'*/ → /*0*/,

i.e. *ku-* + *'i-* + /*'V*.../ → /*kuyV*.../ (where /*V*/ is not /*i*/)  
(stem)

The first syllable of the personal form is an open syllable /*ku*/ and the /*y*/ becomes the initial consonant of the second syllable /*yV*/ or /*yVC*/.

Prosodeme: The accent kernel falls on the second syllable, /*yV*/ or /*yVC*/.

e.g. 74) *ku-* + *'i-* + /*'ére*/ → /*kuyére*/  
to let (him) eat (it) I let you (hon.) eat (it)

- § 3.2.2. nominative: first person plural exclusive : *ci-*  
first person singular and plural in quotation }  
second person honorific : *'a-*  
indefinite person }  
objective : first person plural inclusive }  
first person singular and plural in quotation : *'i-*  
second person honorific }

Segmental phoneme: When the subject is first person plural exclusive, the shape /*ci-*/ does not remain in the nominative-objective affixation, but is replaced by /*'a-*/ so that the resulting form is homonymous with “*'a-* + *'i-* + stem”:

$\left\{ \begin{matrix} ci- \\ 'a- \end{matrix} \right\} + 'i- + /.../ \rightarrow /'a'i.../$   
(stem)

The /*'i*/ in the personal form /*'a'i*.../ is weakened into the secondary element of a diphthong /*y*/ in ordinary rapid speech (cf. §3.1.5): /*'a'i*.../ → /*'ay*.../

Prosodeme: Since the prefix *'a-* does not change the position of the accent kernel in the stem to which it is affixed, the prosodic alternations are caused by *'i-*. They follow almost perfectly the alternation rules for the simple affixation of *'i-*.

e.g. 75) *'a-* + *'i-* + /*nukár*/ → /*'a'inúkar*/ → /*'aynúkar*/  
to see we see you (hon.), you (hon.) are seen, etc.

76) *'a-* + *'i-* + /*'ipére*/ → /*'a'i'ipere*/ → /*'ay'ipere*/  
to let (him) eat we let you (hon.) eat, one lets you (hon.) eat, etc.

77) *'a-* + *'i-* + /*'ére*/ → /*'a'i'ére*/ → /*'ay'ére*/  
to let (him) eat (it) we let you (hon.) eat (it), one lets you (hon.) eat (it), etc.



- 82) 'a- + 'en- + /'ipére/ → /'a'enípere/ → /'aynípere/  
to let (him) eat you (hon.) let me eat, one lets me eat

§ 3.2.5. nominative: second person honorific } : 'a-  
indefinite person }  
objective : first person plural exclusive: 'un-  
'a- + 'un- + /.../ → /'a'un.../  
(stem)

The alternations here are caused by 'un-. A phenomenon of the same kind as that seen in §3.2.4 is observed here, too: the /'u/ in /'a'un.../ is often weakened into /w/ in ordinary rapid speech when the stem begins with /'/.  
e.g. 83) 'a- + 'un- + /nukár/ → /'a'únnukar/

to see you (hon.) see us, we are seen

- 84) 'a- + 'un- + /sitáyki/ → /'a'úysitayki/  
to strike you (hon.) strike us, we are struck

- 85) 'a- + 'un- + /'ipére/ → /'a'unípere/ → /'awnípere/  
to let (him) eat you (hon.) let us eat, one lets us eat

§ 3.2.6. nominative: first person singular and plural in quotation } : 'a-  
indefinite person }  
objective : second person singular : 'e-  
'a- + 'e- + /.../ → /'a'e.../  
(stem)

When the stem begins with /'i/ or /'u/, the personal form with 'a- and 'e- is not \*/'a'ey.../ or \*/'a'ew.../ as would be expected from the alternation rules for the simple affixation of 'e- (§3.1.9), but /'a'e'i.../ or /'a'e'u.../. Consequently the personal form with 'a- and 'e- always has its accent kernel on the first syllable of the stem.

In ordinary rapid speech the form /'a'e.../ is often weakened to /'ay.../.

- e.g. 86) 'a- + 'e- + /nukár/ → /'a'enúkar/ → /'aynúkar/  
to see one sees you (i.e. you are seen), (he said)  
"I see you."

- 87) 'a- + 'e- + /'ipére/ → /'a'e'ípere/ → /'ay'ípere/  
to let (him) eat one lets you eat (i.e. you are served with food), (he said) "I let you eat."

§ 3.2.7. nominative: first person singular and plural in quotation } : 'a-  
indefinite person }  
objective : second person plural : 'eci-  
'a- + 'eci- + /.../ → /'a'eci.../  
(stem)

Since both 'a- and 'eci- leave the accent kernel in its original position in the stem, the personal forms with them have shapes that greatly deviate from the general tendency

in the prosodic system of this dialect (§3.1.1 (a), §3.1.5): the accent kernel is either on the fourth or on the fifth syllable.

e.g. 88) 'a- + 'eci- + /kíkkik/ → /'a'ecikíkkik/

to hit one hits you (pl.) (i.e. you are hit),  
(he said) "I hit you (pl.)."

89) 'a- + 'eci- + /nukár/ → /'a'ecinukár/

to see one sees you (pl.) (i.e. you are seen), (he  
said) "I see you (pl.)."

§ 3.2.8. nominative: second person singular: 'e-  
objective : first person singular : 'en-  
'e- + 'en + /.../ → /'en.../  
(stem)

The personal form produced by this nominative-objective affixation is completely homonymous with that formed by the simple affixation of 'en- (§3.1.2).

e.g. 90) 'e- + 'en- + /nukár/ → /'énnukar/

to see you see me

91) 'e- + 'en- + /sitáyki/ → /'éysitayki/

to strike you strike me

92) 'e- + 'en- + /'ipére/ → /'enípere/

to let (him) eat you let me eat

§ 3.2.9. nominative: second person singular : 'e-  
objective : first person plural exclusive: 'un-  
'e- + 'un- + /.../ → /'un.../  
(stem)

The personal form here is completely homonymous with that formed by the simple affixation of 'un- (§3.1.4).

e.g. 93) 'e- + 'un- + /nukár/ → /'únnukar/

to see you see us

94) 'e- + 'un- + /sitáyki/ → /'úysitayki/

to strike you strike me

95) 'e- + 'un- + /'ipére/ → /'unípere/

to let (him) eat you let me eat

§ 3.2.10. nominative: second person singular : 'e-  
objective : first person singular and plural in quotation: 'i-  
'e- + 'i- + /.../ → /'éy.../  
(stem)

While in the simple affixation of 'i- the stem-initial /' / before /a/, /e/, /o/, or /u/ often becomes /y/ (§3.1.7), in this nominative-objective affixation, "'e- + 'i- + stem,"

The accent kernel necessarily falls on the first syllable /'ey/ (See §3.2.1).

- e.g. 104) 'eci- + 'i- + /nukár/ → /'eci'inúkar/  
to see (he said) "you (pl.) see me (or us)"
- 105) 'eci- + 'i- + /'ére/ → /'eci'i'ére/ → /'eci'iyére/  
to let (him) eat (it) (he said) "you (pl.) let me (or us)  
eat (it)"

#### 4. RELATIVE ORDER OF THE PERSONAL AFFIXES AND OTHER FORMS WHICH OCCUR TOGETHER WITH THEM<sup>21</sup>

When a personal prefix is connected with a verb, it is directly affixed to the verb-stem, and nouns as the subject or object(s), adverbials and other modifiers connected with the same verb are put outside (usually before) the personal form.

In the affixation of personal prefixes to position nouns, postpositional adverbs, and some specific adverbs, nothing can be put between the personal prefix and the stem, either.

With nouns, however, the order of the personal affixes and the other elements is a little freer. Informants sometimes tell one that one order is better but another is possible, too. Or one sometimes comes across cases in which a pattern in one order is possible only with certain forms, and with other forms a pattern in another order is required.

##### § 4.1. Order of the personal prefix and the verb or verb phrase modifying a noun

The verb and the adjective are not distinct parts of speech in Ainu. Words which would be translated by adjectives and words which would be translated by verbs in other languages mostly belong to one part of speech, which is called the verb. For the modification such as "large dog" or "the eye that hurts" the pattern

verb (phrase) + noun

is used. On the other hand, with the nouns which have the belonging form, a relation such as "my eye" or "your sister" is expressed by means of the personal form:

nominative personal prefix + personal stem of the noun.

Hence the question arises of the relative order of a nominative personal prefix and a verb or verb phrase which occur with the same noun.

##### § 4.1.1. Pattern one: verb (phrase) + $\begin{matrix} \text{nominative} \\ \text{personal prefix} \end{matrix} + \begin{matrix} \text{personal stem} \\ \text{of a noun} \end{matrix}$

This is a perfectly satisfactory order. One can produce a correct noun phrase by putting any form in each designated place of this pattern, as far as the meaning permits it. The place for a verb (phrase) can be filled by the same verb phrases as those which modify the nouns that can take no personal prefixes—a single verb as well as object + verb, adverbial + verb, *somó* «not» + verb, subject + verb (as the predicate), etc. However, it is not very much liked to have a verb phrase as a modifier which is too long. In such cases an entirely different pattern is usually used instead of the above pattern, such as

$\begin{matrix} \text{nominative} \\ \text{personal prefix} \end{matrix} + \begin{matrix} \text{personal stem} \\ \text{of a noun} \end{matrix} + \text{verb phrase} + \begin{matrix} \text{conjunctive particle} \\ \text{such as } wa \text{ «and»} \end{matrix}$   
(subject) (predicate)

<sup>21</sup> See footnote 19.



In this dialect, and also in many other dialects (perhaps in many languages including Japanese), the pattern

noun + verb phrase + conjunction ...  
(subject, object, etc)

is by far preferred to the pattern

verb phrase + noun  
(noun modifier)

when the verb phrase is long. If the content can be expressed by either pattern, the former is usually adopted. However, the pattern under discussion (pattern one) is a perfectly permissible one.

- e.g. 106) *wén ku-sáha* (*súy 'iyúkoykire wa...*)  
bad my-older sister (again make people fight and...)  
«my bad older sister»
- 107) *kiyáñne k-ákihi*  
older my-younger brother  
«the elder or eldest of my younger brothers»
- 108) *pón 'e-síwtoho*  
little your-husband's blood relative  
«the younger or youngest of your husband's sisters»
- 109) *wén ku-síkihi*  
bad my-eye  
«my bad eye(s)»
- 110) *'e'árkinne 'árka ku-síkihi*  
awfully hurt my-eye  
«my eye(s) which hurts awfully»
- 111) *'iyóitta pón ku-mátakihi*  
most little my-younger sister  
«the youngest of my younger sisters»
- 112) *somó 'árka ku-síkihi*  
not hurt my-eye  
«my eye(s) which does not hurt»
- 113) *né sések 'oháw 'é ku-hókuhu*  
the hot soup ate my-husband  
«my husband who ate the hot soup»
- 114) *púri pírka k-ákihi*  
his-habit good my-younger brother  
«my younger brother whose habit is good, i.e. my well-behaved younger brother»

The following phrase is the same pattern but a postpositional adverb phrase is used instead of a verb phrase as a noun modifier. *Ku-póromatakihi* is the object of the postpositional adverb *'otútanu*. In this way, besides verb phrases, various forms that

can modify those nouns which can make no belonging form also enter the place for a noun modifier in this pattern.

- e.g. 115) *ku-póromatakihi*      'otútanu *ku-mátakihi*  
 my-big younger sister    next to    my-younger sister  
 «my younger sister who is next to my big younger sister, i.e.  
 my second younger sister»

§ 4.1.2. Pattern two:    nominative    + verb +    personal stem  
                                  personal prefix    of a noun

This pattern is used to some extent. It may be said to be fairly productive within a limited range.

- e.g. 116) *ku-wén-matakihi*  
 my-bad-younger sister  
 117) *'e-póro-matakihi*  
 your-big-younger sister  
 «the elder or eldest of your younger sisters»  
 118) *k-árka-sikihi*  
 my-hurt-eye  
 «my eye which hurts»  
 119) *ku-hánke-'apaha*  
 my-near-relative  
 120) *ku-túyma-'apaha*  
 my-distant-relative

These expressions can all be paraphrased by using pattern one:

- 121) *wén ku-mátakihi*  
 bad my-younger sister  
 122) *poró 'e-mátakihi*  
 big your-younger sister  
 123) *'árka ku-sikihi*  
 hurt my-eye  
 124) *hánke k-ápaha*  
 near my-relative  
 125) *túyma k-ápaha*  
 distant my-relative

In pattern one both the verb (phrase) modifying the noun and the noun with a personal prefix have their respective prosodemes. The prosodic pattern of the phrase in pattern one is exactly the same as in the pattern,

verb (phrase) + noun without a personal prefix.  
 (noun modifier)

On the other hand in pattern two the whole form has one prosodeme.

Pattern two can be used only within a certain limited range. First, only a single verb can be put between the personal prefix and the personal stem of a noun, but no phrase can. Phrases with a subject, objects, adverbials, *somó* «not», and others which can occur in pattern one cannot be used in this pattern. For example,

- 126) \**k-é'arkinne-'arka-sikihi*  
my-awfully-hurt-eye  
127) \**ku-yóttá-pon-matakihi*  
my-most-little-younger sister  
128) \**ku-sómo-'arka-sikihi*  
my-not-hurt-eye  
129) \**ku-púri-pirka-'akihi*  
my-his habit-good-younger brother

are all impossible, whereas examples 110, 111 112, or 114 in pattern one are all right.

Second, there are some verbs which cannot be put in this pattern. For example, the following expressions in pattern two:

- 130) \**ku-kiyánné-'akihi*  
my-older-younger brother  
131) \**ku-poníwne-'akihi*  
my-younger-younger brother

are not possible, whereas

- 107) *kiyánné k-ákihi*  
older my-younger brother  
132) *poníwne k-ákihi*  
younger my-younger brother

in pattern one are perfect. If *poró* «big» or *pón* «little» are used instead of *kiyánné* «older» or *poníwne* «younger», both pattern one:

- 133) *poró k-ákihi*  
big my-younger brother  
134) *pón k-ákihi*  
little my-younger brother

and pattern two:

- 135) *ku-póro-'akihi*  
my-big-younger brother  
137) *ku-pón-akihi*  
my-little-younger brother

are all right. Although *poró* (or *pón*) *kákihi* and *kiyánné* (or *poníwne*) *kákihi* are synonymous, the expressions 130 and 131 are not possible.

This impossibility is due to the verbs *kiyánné* and *poníwne*. Etymologically these two verbs originated as phrases. They can be analyzed into *kiyan* «?» + *ne* «to be» and *pon* «little» + *iw* «person» + *ne* «to be», respectively. The form *-iw* «person» still occurs as a suffix in numeral nouns (See §4.2).

Sometimes it is the noun that does not permit this pattern. For example,

- 137) \**ku-hánke-'utari*  
my-near-relative  
138) \**ku-túyma-'utari*  
my-distant-relative

are not permitted, whereas

- 139) *hánke k-útari*  
near my-relative  
140) *túyma k-útari*  
distant my-relative

in pattern one are perfect. If '*utári*' is replaced by '*ápáha*', then both pattern one:

- 124) *hánke k-ápaha*  
near my-relative  
125) *túyma k-ápaha*  
distant my-relative

and pattern two:

- 119) *ku-hánke-'apaha*  
my-near-relative  
120) *ku-túyma-'apaha*  
my-distant-relative

are all right. Although *hánke* (or *túyma*) *kápaha* and *hánke* (or *túyma*) *kútari* are almost synonymous, the expressions 137 and 138 are not possible. This impossibility is due to the noun '*utári*'.

When '*ápáha*' and '*utári*' are used in the same situation (although they are slightly different in meaning), '*ápáha*' is considered to be a little older and more formal expression, and '*utári*' a newer and more everyday expression.

To conclude, pattern two is one word—a personal form of a single compound noun consisting of a modifying verb element and a modified noun element, whereas pattern one is included in the ordinary pattern as a phrase,

modifier + noun.

Finally, turning our attention to a historical problem, it can be assumed that personal affixes were originally independent words, which could occur much more freely in various positions. The author has stated her opinion that '-*án*' (and probably '*a*'- also) is in a close relation to the verb '*án*' «to exist» (§3.1.6). She assumes that '-*ás*' also can be connected with the verb '*ás*' «to stand» (also it occurs in many set phrases). Here she presents her assumption that the least independent personal prefixes *ku*-, '*e*-, etc. were also more independent words in old Ainu. The fact that more expressions in pattern two and other freer uses of personal prefixes occur in orally transmitted epics, where many older expressions are considered to be preserved, supports this assumption.

Professor Hattori referred to this pattern in the Sakhalin dialect in his "Ainugo-Karafuto hōgen no ninshō setsuji ni tsuite."<sup>22</sup> In the Saru dialect this pattern cannot be used to express the same sort of relation as patterns one and two. For example,

- are all impossible. The expressions *kupón*, *kuwén*, and *kárka* mean «I am small», «I am bad», and «I am painful», respectively. The verbs *pón* «to be small», *wén* «to be bad», and *'árka* «to hurt» are all intransitive verbs, which can take a subject but no objects. The prefix *ku-* functions as the subject here, and the verbs cannot take any more nouns either as subject or as object. Complete phrases like these can never be a noun modifier. Only those phrases which lack one or more constituent nouns (subject or object(s)) can modify nouns.

144) *ku-wén k-únihi*  
I-poor my-house  
«The poor house of me who am poor»  
cf. 145) *wén k-únihi* (pattern one)  
poor my-house  
146) *ku-wén-'unihi* (pattern two)  
my-poor-house

**§ 4.1.4.** The same problem in expressions with “nominative personal prefix + *kór*”

nominative  
personal prefix + *kór* + noun  
                                  «to have»

A verb or a verb phrase as a noun modifier is relatively free to stand between *kór*

<sup>23</sup> See Tamura, "Ainugo Saru hōgen no meishi, sono 1 (Nouns in the Saru dialect of Ainu, I)," *Bulletin of the Institute of Language Teaching*, Vol.3 (Waseda University, 1964).

and the noun.

- e.g. 147) *ku-kór pón húci*  
 I-have little grandmother  
 «my younger grandmother»  
 148) *ku-kór kúnne setá*  
 I-have black dog  
 «my black dog»  
 149) *ku-kór poró kúnne setá*  
 I-have large black dog  
 «my large black dog»

Here, *ku-kór* modifies the phrases *pon húci* (example 147), *kúnne setá* (example 148), and *poró kúnne setá* (example 149). Besides, the expression corresponding to "I have a black dog." is *kúnne setá kukór*.

In examples 148 and 149, *ku-kór* and the other modifier, *kúnne* or *poró kúnne*, can be exchanged:

- 150) *kúnne ku-kór setá*  
 black I-have dog  
 151) *poró kúnne ku-kór setá*  
 large black I-have dog

Then *kúnne* in example 150 or *poró kúnne* in example 151 modifies the phrase *kukór setá*.

The phrases 148 and 149 are much preferred to 150 and 151. Generally the pattern with a verb (phrase) as a noun modifier between the personal prefix +*kór* and the noun is preferred to the pattern with the verb (phrase) before the personal prefix +*kór*.

In example 147, *pon* «little» and *húci* «grandmother» are combined so closely that *pon húci* may be viewed as almost a compound word.<sup>24</sup> So *kukór* cannot stand between *pon* and *húci*:

- 152) \**pon ku-kór húci*  
 little I-have grandmother

If, on the other hand, one uses the word *poníwne*, «younger, youngest», which consists of three morphemes, and which must originally have been a phrase,<sup>25</sup> instead of *pon*, then

- 153) *poníwne ku-kór húci*  
 younger I-have grandmother

is preferred to

- 154) *ku-kór poníwne húci*  
 I-have younger grandmother

<sup>24</sup> *pon húci* cannot be called a true compound (which always occurs as a single compound word). For *poró* «big» or *pon* «little» can stand before a personal prefix (examples 108, 122).

<sup>25</sup> See §4.1.2.

although 154 is permitted, too.

**§ 4.2. Order of nominative personal prefixes and numbers used with the same noun**  
Numbers from one to ten are as follows:

	noun modifier	numeral noun	
		... things	... persons
1	siné	sinép	sinén
2	tu	túp	tún
3	re	rép	rén
4	'íne	'ínep	'ínen
5	'asíkne	'asíknep	'asíknén
6	'iwán	'iwámpe	'iwániw
7	'árwan	'árwampe	'árwaniw
8	tupésan	tupésampe	tupésaniw
9	sinépesan	sinépesampe	sinépesaniw
10	wán	wámpe	wániw

Of these numbers *tu* «two» and *re* «three» each share a prosodeme with the noun they modify, and require the accent kernel on the first syllable of the noun, i.e. on the second syllable of the prosodic unit (most common prosodic shape).

All the others have an accent kernel somewhere within themselves, and the prosodic pattern of the phrase

number + noun

is the same as that of other phrases

modifier + noun.

The accent kernel in the noun becomes secondary, and is concealed in a prosodeme carried by the whole phrase, whereas the accent kernel of the first part, the modifier, is always audible. Only in emphasis does the accent kernel in the second part, the noun, come out.

**§ 4.2.1. Pattern one:** number + <sup>nominative</sup>personal prefix + <sup>personal stem</sup>of a noun

With *tu* «two» and *re* «three» this pattern is never used. The informant says it does not sound like Ainu.

155) \**tu*        '*é-matakihi*  
              two your-younger sister

156) \**re*        *k-ákihi*  
              three my-younger brother

With '*íne* «four» and '*asíkne* «five» this pattern does not seem to be completely incorrect, but is not usually used. The informant sometimes says it is all right, but

sometimes says it sounds a little strange. But after repeating several times the phrases in this pattern like 157 or 158, she unconsciously transforms it into pattern three (§4.2.3).

- 157) (\*)'ine 'e-mátakehi  
four your-younger sister  
158) (\*)'asikne k-ákihi  
five my-younger brother

With *siné* «one» and all the numbers from 'iwán «six» up, this pattern is all right.

- 159) *siné* 'e-mátakehi  
one your-younger sister  
«one younger sister of yours»  
160) 'iwán 'e-mátakehi  
six your-younger sisters  
161) 'árwan 'e-mátakehi  
seven your-younger sisters  
162) *tupésan* 'e-mátakehi  
eight your-younger sisters  
163) *sinépesan* 'e-mátakehi  
nine your-younger sisters  
164) *wán* e'-mátakehi  
ten your-younger sisters  
165) *tún* 'ikásma wán 'e-mátakehi  
twelve your-younger sisters

§ 4.2.2. Pattern two: nominative + number + noun  
personal prefix

This pattern is impossible with any number.

- 166) \**ku-sine-mátakehi*  
my-one-younger sister  
167) \**ku-tú-mátakehi*  
my-two-younger sisters  
168) \*'e-ré-mátakehi  
your-three-younger sisters  
169) \*'e-árwan-mátakehi  
your-seven-younger sisters

§ 4.2.3. Pattern three: nominative + personal stem + numeral noun  
personal prefix + of a noun

This pattern is perfectly acceptable with any number. It is the most natural, basic pattern and is most often used in ordinary situations, whereas pattern one is a special pattern. It is used when the emphasis is on the number, or when the speaker aims at some stylistic effect (e.g. literary expression).



A numeral noun consists of a noun-modifying numeral and a nominalizing suffix, either *-pe* (/pe/ after a consonant, /p/ after a vowel) «thing» or *-iw~-n* (/iw/ after a consonant, /n/ after a vowel) «person».

- e.g. 170) *ku-mátakutari*      *ré-n*      *'án.*  
 my-younger sisters   three-people   there is  
 «I have three younger sisters.»
- 171) *k-ákihi*      *tú-n*      *né wa...*  
 my-younger brother   two-people   is and  
 «My two younger brothers...»
- 172) *'e-mátakihi*      *'asikne-n*      *tura...*  
 your-younger sister   five-people   with  
 «With your five younger sisters...»

Besides, in example 170 the verb *'án* «there is» is the singular form. The plural form corresponding to it is *'oká* «there are». In the Saru dialect, and in all the other dialects the author knows, there is a rule that numerals cannot be connected syntactically with verbs in the plural. In a sentence identical to example 170 but without *ré-n* «three people», the plural form *'oká* «there are» would be used instead of *'án*:

- 173) *ku-mátakutari*      *'oká.*  
 my-younger sisters   there are  
 «My younger sisters are there; I have younger sisters.»

#### § 4.2.4. The same problem in a phrase with “nominative personal prefix + *kór*”

The pattern:      nominative  
                          personal prefix + *kór* + number + (modifier +) noun

is possible, i.e. a noun-modifying numeral can stand between the personal form of the verb *kór* «to have» and the modified noun with or without another modifier.

- e.g. 174) *ku-kór siné (wén) setá*  
 I-have one (bad) dog  
 «one (bad) dog of mine»

But the pattern:      nominative  
                          number +      personal prefix + *kór* + (modifier +) noun

is impossible, i.e. no noun-modifying numeral can stand before the personal form of *kór* modifying the same noun.

- e.g. 175) *\*sine ku-kór (wén) setá*  
                  one I-have (bad) dog

This is opposite to the relation between patterns one (§4.2.1) and two (§4.2.2), where *kór* was not used but the personal prefixes were directly affixed to the nouns.

In phrases with *kór*, too, however, the most basic, natural pattern, which is most often used in ordinary situations without any special emphasis or special aim at stylistic effect, is the pattern with a numeral noun after the noun modified by the personal form of *kór*, just like pattern three (§4.2.3) where a numeral noun stands after the personal

form of a noun.

- e.g. 176) *ku-kór (wén) setá siné-p*  
 I-have (bad) dog one-thing  
 «one (bad) dog of mine»

#### § 4.3. Order of a number and a verb (phrase) modifying the same noun

Although this subject may be somewhat unrelated to the problem of personal affixes, it should be mentioned briefly now that the problems in §4.1 and §4.2 have been discussed.

##### § 4.3.1. Pattern one: number + verb (phrase) + noun

This pattern is possible to some extent.

- e.g. 177) *siné wén setá*  
 one bad dog  
 178) *tu wén setá*  
 two bad dogs

However, this does not seem to be a productive pattern, for the informant says

- 179) *\*tu póro setá*  
 two large dogs  
 180) *\*re póro setá*  
 three large dogs

are impossible. Only in some set phrases is this pattern used, and even when it is possible, it is used only as a special expression with some particular nuance to replace a more natural, ordinary, plain expression, pattern three below (§4.3.3).

##### § 4.3.2. Pattern two: verb (phrase) + number + noun

This pattern is not possible.

- e.g. 181) *\*wén siné setá*  
 bad one dog  
 182) *\*kúnne tu séta*  
 black two dogs

##### § 4.3.3. Pattern three: verb (phrase) + noun + numeral noun

This is the most basic, natural pattern without any special nuance. It is often used in ordinary conversation and also in orally transmitted folk tales.

- e.g. 183) *wén setá siné-p*  
 bad dog one-thing  
 184) *rúpne setá tú-p*  
 large dog two-things  
 185) *pírka pón mátkaci ré-p*  
 pretty little girl three-things

«three pretty little girls»

- 186) *pírka*      *káikemat*    *'iwán-iw*  
 beautiful    lady      six-people  
 «six beautiful ladies»

As seen in both §4.2 and §4.3, in the Saru dialect of Ainu, when a number and other elements (personal prefix, modifier) are connected with the same noun, the most natural, plain expression is in the pattern with a numeral noun after the noun:

other element(s) + noun + number  $\begin{cases} -pe \\ -iw \sim -n. \end{cases}$

When a number stands before a noun, the phrase has some special nuance. Moreover the use of such special patterns is subject to many restrictions in usage.

TOKYO INSTITUTE FOR ADVANCED STUDIES OF LANGUAGE, JAPAN

# **DIE ALTEN QUELLEN DER KAZAN- UND NORD-TÜRKISCHEN LITERATUR (BIS ZUM XIX. JAHRHUNDERT)**

**AHMET TEMİR**

Die heutzutage als "Tataren," "Baschkurten" und "Tschuwaschen" bezeichnete Bevölkerung türkischer Abstammung aus der auch "İdil-Ural" genannten, die Gebiete zwischen der Wolga und dem Uralgebirge und deren benachbarte Landstriche umfassenden Region, besteht in ihrer gegenwärtigen Zusammensetzung aus den ethnisch zum größten Teile von den İdil-Bulgar-Türken herkommenden Stämmen und darüber hinaus aus der Mischung der Kiptschaken (Kumanen), Petscheneken, Uguzen und anderer Stämme untereinander. Die Sprache der İdil-Bulgar-Türken war das R-Türkisch. Heute jedoch ist das R-Türkisch nur noch durch das Tschuwaschische vertreten. Die Sprache der heutigen Tatar-Baschkurten dagegen ist das vom Tschuwaschischen sehr verschiedene Z-Türkisch. Demzufolge vertreten die Historiker und Sprachwissenschaftler die Ansicht, daß der größte Teil der Alt-Bulgaren unter der Einwanderung der anderen Türkstämme und des Islams seine Sprache änderte und in den Bereich des Z-Türkischen glitt, während die sich vom Islam der Bulgar-Türken freihaltenden Tschuwaschen eine Volksgruppe bildeten, die sich ihre Art zu sprechen, bis auf den heutigen Tag bewahrt hat.

Die Forschungen über die sprachlichen Verhältnisse im Bulgar-Staate zur Zeit der Islamisierung, über die Türk-Sprachen, die im Mittelalter in den Gebieten nördlich des Schwarzen Meeres gesprochen wurden und somit auch über die älteste Form des Kazan-Türkischen, sind wegen der spärlichen Quellen noch nicht abgeschlossen. Wir können das bis heute aufgefundene schriftliche Material, das bei der Erforschung dieses Aspekts das Fundament abgeben könnte, wie folgt gruppieren:

## **a. Die Bulgar-Periode**

Bekanntlich haben die Bulgar-Türken den Islam angenommen, als 922 die zur Zeit des Kalifen von Bagdad El-Musta'sim gesandte Abordnung nach Bulgar kam. Dieser Besuch, der auf die Einladung durch den Chan der Bulgar-Türken, Almas Silki, hin erfolgte, war eine reine Formalität, denn der Islam war unter den İdil-Bulgar-Türken schon längst verbreitet. Mit der Religion zusammen übernahmen die Bulgar-Türken auch die arabische Schrift. Über die in diesen Gebieten vorher verwendete Schrift haben wir keine klaren Kenntnisse; manche Forscher sind der Auffassung, daß die Bulgar-Türken früher wahrscheinlich die Orhon-Runenschrift verwendeten.

Es besteht jedoch kein Zweifel darüber, daß die Bulgar-Türken, die mit der Annahme des Islams hinsichtlich ihres Dialekts vom R-Türkisch zum Z-Türkischen übergingen und ein hohes Kulturniveau erreicht hatten, eine geschriebene Literatur besaßen. Als Beispiele der aus jener Zeit stammenden Schriftwerke können wir bulgar-türkische Grabsteine, einige Werke, deren Originale zwar noch nicht aufgefunden wurden, sowie Beispiele der Volksliteratur erwähnen, die uns vermutlich aus der Bulgar-Zeit überkommen sind. Eines davon ist das von dem *Oberrichter* der Bulgar-Türken Nu'man oğlu Yakub Bulgari im Jahre 1112 verfaßte Werk *Bulgar Tarihi*. Arabische Reisende wie Abu Hamid el-Endelüsi, der dieses Werk mit seinen eigenen Augen sah, maßen ihm einen großen Wert bei. Alle Bemühungen, dieses Werk aufzufinden, sind bis jetzt erfolglos geblieben. Der bedeutende *kazanische* Historiker Şihab ed-Din Mercanî (1818-1889), der im ersten Band des Werkes *Müstefad-ül-Ahbar* (auf Seite 78-89) die für die Bulgar-Periode in Betracht kommenden Quellen aufzählt, spricht von 20 Persönlichkeiten und deren Werken, von denen 8 als "el-Bulgari" ("aus Bulgar"), 2 als "el-Sarayî" ("aus Saray"), eine als "el-Kazini" (Kazani? "aus Kazan?") und eine als "el-Kirimi" ("aus der Krim") angeführt werden. Die übrigen sind bekannte islamische Geschichtsschreiber zumeist türkischer Abstammung.

- Nu'man oğlu Ya'kub Bulgari: Der wichtigste unter den von Mercanî als "aus Bulgar" bezeichneten Persönlichkeiten ist der von uns schon oben erwähnte Nu'man oğlu Ya'kub Bulgari. Hier seien auch die übrigen kurz erwähnt:
- Abul-Ülâ Hamid bin İdris el-Bulgari: Mercanî nach war er 500/1106—1107 am Leben, war Richter und Gelehrter. Wenngleich seine Werke uns nicht erhalten sind, wissen wir doch, daß der Verfasser des *Kitab-ı Zühretü'r-Riyaz*, Saksinî, sein Werk in enger Anlehnung an das Werk eben dieses Abul-Ülâ und dessen Überlieferungen geschrieben hat.
- Hoca Ahmed el-Bulgari: Seine Werke liegen nicht vor.
- Şeyh Burhan ed-Din İbrahim bin Hızır el-Bulgari: Mercanî (Müstefad, Seite 82) schreibt, daß er das mit 751/1350 datierte Werk *Kitap usul el-Hüsami* dieses Autors in seiner eigenen Bibliothek besitze.
- Şeyh ebu Muhammed Sadr bin Ala ed-Din el-Bulgari: Wenngleich uns keine Werke von ihm vorliegen, gibt es in dem von seinem Schüler Tac ed-Din İbrahim bin Muhammed 765/1363—1364 verfaßten Werke *Usul-ü İman-ı Fahr el-İslam* ein mit 766/1364—1365 datiertes, arabisch geschriebenes *İcazetname* (Lehrbefähigungszeugnis).
- Şeyh el-İmam Hoca Hasan bin Ömer el Bulgari: Stammt eigentlich aus der Stadt Gence, Aserbeidschan; lebte in Bulgar; er soll in Buchara oder 699/1299—1300 in Täbris gestorben sein. Er ist Schüler des Şeyh Sa'd el-Din El-Hamevi.
- Şeyh Muhammed el-Bulgari: Ist der Verfasser des Werkes *Hazinet el-Ulema ve Ziyet el-Fukaha*.
- Şeyh Burhan ed-Din İbrahim bin Yusuf el-Bulgari: Wie dem Werke *Keşf ez-Zünun* zu entnehmen ist, hat er das Werk *Kitab şerh adab el-Sahayif* verfaßt und einen Kom-

mentar zu dem Werk *Fusul an-Nasafi* geschrieben.

—Şeyh Necm ed-Din ebu-r-Rica Muhtar bin Mahmud bin Muhammed el-Kazini el-Hanefi el-Zahidi: Starb 688/1289. Er schrieb *Risale-i Nasiriye* und überreichte es dem Bereke Chan, verfaßte des weiteren *El-Kaniye* und schrieb einen Kommentar zu dem Werk *Muhtasar el-Kaduri*. Mercanî gibt aus dem Werke *Risale-i Nasiriye* einige Stellen in der Türkî-Sprache.

—Şeyh Minhac ed-Din İbrahim Süleyman el-Sarayî: Starb 771/1369—1370 in Harezm.

—Şeyh Vaiz en-Nasih Ahmed bin Şems el-Ummet es-Sarayî: İbn Arabşah schreibt über ihn: Er beherrschte das Arabische, Persische und Türkische und kannte das Zeitgeschehen. Er wurde von Timurlenk nach Samarkand berufen.

Wir haben von den in Mercanîs obigem Werk aufgezählten Autoren nur die mit den Zusätzen "aus Bulgar," "aus Saray" und "aus Kazan" ausdrücklich bezeichneten einheimischen Persönlichkeiten und die uns bekannten Titel ihrer Werke erwähnt. Es steht fest, daß die meisten dieser Werke arabisch und von Mercanî durchgesehen und studiert worden sind. Einige Werke jedoch kennen wir nur dem Namen nach oder durch Stellen, die in anderen Werken angeführt werden. Eine Vertiefung der Forschungen auf diesem Gebiete erweist sich jedenfalls als notwendig.

Als zweite Gruppe schriftlicher Dokumente aus der Bulgar-Periode sind die Grabsteine zu erwähnen. Sie stammen teils aus dem VII./XIII., teils aus dem VIII./XIV. Jahrhundert, wobei einige in Arabisch, andere in Türkisch mit Kûfî- und Sülûs-Schriftzeichen abgefaßt sind. Hinsichtlich des Dialekts gleicht die Sprache eines Teiles dieses Werkes der des Codex Cumanicus, die eines anderen Teils ähnelt der tschagataischer Texte, die eines weiteren Teils hingegen dem kazanischen Dialekt, einige andere wieder enthalten tschuwaschische Wörter.

Die aus der Bulgar-Periode stammenden Grabsteine wurden (zusammen mit den Grabsteinen aus der Kazanischen Periode) zuerst von Ş. Mercanî erwähnt; später hat sein Schüler Hüseyin Feyizhan (1821—1866) in seinem 1863 in der Archäologischen Zeitschrift veröffentlichten Artikel den Text dreier Grabsteine bekanntgemacht und damit in der wissenschaftlichen Welt zum erstenmal das Bulgar-Tschuwaschen Problem aufgeworfen. Außerdem haben sich auch Gelehrte wie A. Ahmer, Berezin, Aşmarin, Smolin, Şpilevski u.a. mit diesem Problem beschäftigt.

#### b. Die Chazaren und die Chazarische Frage

Da die Forschungen über den im VII. -IX. Jahrhundert in Ost-Europa, und zwar im südlichen Teile des zwischen İdil und Turla-Dnjestr gelegenen heutigen İdil-Ural-Gebietes bestehenden Chazar-Türken-Staat und die Chazaren noch nicht abgeschlossen sind, ist es unmöglich, über die Sprache und Literatur dieser Periode etwas auszusagen. Die ziemlich umfangreichen auf uns gekommenen türkischen Texte dieser Periode sind noch nicht erschlossen, die vorgenommenen Forschungen stützen sich vor allem auf fremde Quellen (in der Hauptsache jüdische, islamische und byzantinische), sowie auf die türkischen Aussagen in diesen Quellen. (Vgl. dazu A. Zajaczkowski, *Ze studiów*

*nad zagadnieniem Chazarskim—Etudes sur le problème des Khazars 1947.)*

### c. Kiptschakische Werke

Vom XII. bis zum XIV. Jahrhundert haben die Kiptschak-(Kuman)-Türken in Osteuropa, Ägypten und Syrien eine bedeutende Rolle gespielt. Das diesen Türkstämmen zugehörige Sprachmaterial wird hauptsächlich in drei Gebieten angetroffen:

a) Das in Ungarn aufgefundene verschiedenartige Material besteht nur aus Worten und Sätzen, die wenig geeignet sind, uns über den damaligen Stand des Kiptschakischen aufzuklären.

b) In Ägypten und dessen Nachbarländern sind im XIV. Jahrhundert viele kiptschakisch-arabische und arabisch-kiptschakische Werke entstanden, was damit zusammenhängt, daß kiptschakische Gruppen in diesen Ländern als militärische Einheiten eingesetzt waren.

c) Im Gebiet nördlich des Schwarzen Meeres, das die eigentliche Heimat der Kiptschaken ist, entstand im XIV. Jahrhundert ein sehr bedeutendes Werk, nämlich der 1303 in lateinischen Schriftzeichen abgefaßte *Codex Cumanicus*, der das Christentum zum Gegenstand hat. Wir gehen nicht auf die detaillierte Darstellung des sprachlichen Erbes des Kiptschakischen ein, sondern begnügen uns damit, auf einige mit diesem Thema Beziehung stehende Forschungsarbeiten hinzuweisen: F. Köprülü, *Türk Edebiyatı Tarihi*, 1926, Seite 366–373; A. Rahim und A. Aziz, *Tatar Edebiyatı Tarihi*, II, 1925, Seite 9–20 und 42–50.

### d. Werke aus der Zeit der Goldenen Horde und der Charezm-Periode

Nach dem heutigen Stand der Forschungen sind uns aus dieser Periode vorläufig folgende Werke und Persönlichkeiten bekannt:

—Ali oğlu Mahmud el-Bulgarî el-Kerderî: *Nehc el-Feradis*. Geschrieben 1342, Saray, Mercanî-Exemplar: 759/1357, Yenicami-Exemplar: 761/1360.

—Kutb, *Hüsrev-ü Şirin*. Geschrieben: 1341–1342. (Türkische Übersetzung in Versen von Nizamîs Werk).

—Harezmi, *Muhabbetname*. Geschrieben: 754/1352.

—Hüsam Kâtip, *Dastan-i Cümçüme Sultan*. Geschrieben: 770/1360. In Kazan 1889 unter dem Titel *Hikayet-i Cümçüme Sultan fi nübuve-i İlyas Aleyhisselâm* gedruckt. Dieses von Hüsam Kâtip im Jahre 1375/76 (in mongolischer Sprache) verfaßte Werk wurde 1548/49 in die Türkî-Sprache übersetzt und unter dem Namen *Kisik Baş Kitabı* berühmt; in Kazan wurde es erstmals 1846 als 16 Seiten umfassende Broschüre gedruckt.

—Seyf Sarayî, Dichter des XIV. Jahrhunderts. Sein bedeutendstes Werk: *Gülistan tercümesi*. Geschrieben 793/1390–91.

Von weiteren aus dem Gebiet der Goldenen Horde stammenden Literaten, deren Werke noch nicht aufgefunden wurden, wie Mevlâna İshak, Mevlâna İmad Mevlevî, Saraylu Ahmed Hoca, Abdülmecid, Tuglu Hoca und Kadi Muhsin, verzeichnet Seyf

Sarayl in seinem Werke je ein Ghasel.

**e. Die Yarliks (Erlässe) und Bitiks (Briefe)**

Als älteste Sprachdenkmäler des Kazan-Türkischen müssen die aus der Zeit des Chanats der Goldenen Horde und des Kazan-Chanats (1439–1552) stammenden yarliks und bitiks erwähnt werden. Von einem Teil dieser yarliks und bitiks konnte die Originalfassung nicht aufgefunden werden; diese sind uns nur in russischer Übersetzung erhalten geblieben. Die sieben uns im Original oder dessen Kopie erhaltenen sind folgende:

- 1) Der mit 1391 datierte Erlaß des Toktamiş Chan,
  - 2) Das yarlik, das Toktamiş Chan im Jahre 1393 an den Yagayla schrieb;
  - 3) Der Erlaß des Timür-Kutluk Chan aus dem Jahre 1397;
  - 4) Das bitik, das Uluğ Muhammed Chan 1428 an Murat IV. schreiben ließ;
  - 5) Das bitik, das Mahmud Chan im Jahre 1466 an Fatih Sultan Mehmed schickte,
  - 6) Das 1477 von Ahmed Chan an Fatih Sultan Mehmed geschriebene bitik;
  - 7) Das yarlik des Kazanen-Chans Sahip Gerey aus dem Jahre 1523.
- (Die Texte 2 und 3 sind in uigurischer, die anderen in arabischer Schrift abgefaßt.)

**f. Kazanische Grabsteine**

Auch den an verschiedenen Stellen des İdil-Ural-Gebietes aufgefundenen Grabsteinen kommt eine große Bedeutung zu. Zurzeit sind sie jedoch nur zum Teil erforscht. Über sie gibt uns Mercanî zuerst Kunde (*Müstefad* I-II). Der älteste der vierzehn von Kayyum Nasirî untersuchten Grabsteine in den Dörfern des Verwaltungsbezirks Züye im Wilayet Kazan stammt aus dem Jahre 1481. Sieben Grabsteine stammen aus dem XVI. Jahrhundert, nämlich je einer aus den Jahren 1501, 1504, 1536 und 1542, drei aus dem Jahre 1543, vier aus dem XVIII. Jahrhundert und der zeitlich jüngste aus dem Jahre 1850. Von den 61 im Jahre 1930 durch Ali Rahim im Gouvernement Kazan untersuchten Grabsteinen sind 24 zwischen 1494 und 1611, vier weitere vermutlich um die Mitte des XVI. Jahrhunderts geschrieben worden. Man kann sagen, daß auch die anderen Grabsteine, deren Zeitangaben nicht mehr zu lesen sind, ihrer Sprach- und Schriftform nach denselben Perioden angehören. Die Sprache, in der sie aufgezeichnet sind, ist die dem damaligen Turkestan gemeinsame Türkî-Sprache, und die Schriftart, in der sie geschrieben sind, ist die arabische "Sülüs"-Schrift.

**g. Die Literatur der Periode des Kazan-Chanats und der russischen Besetzung**

Sowohl vor der Eroberung Kazans durch die Russen als auch in den darauffolgenden Jahrhunderten hat in dem Gebiet zwischen İdil und Ural (dem Gebiet zwischen der Wolga und dem Ural) und dessen Umgebung eine Türkî-Schriftsprache weiterbestanden, die auf der gleichen Grundlage aufbaut wie die turkestanische Literatursprache. Vor allem im XVI., XVII. und XVIII. Jahrhundert stehen Turkestan, Dağıstan und Indien sowohl auf wirtschaftlichem als auch auf geistigem Gebiet in reger Verbindung;



ideelles und ethisches Leben, Philosophie und Literatur entwickeln sich noch gemeinsam mit dem Osten, europäische Einflüsse sind noch nicht zu bemerken. In dieser Periode gehen sehr viele Jünglinge aus Kazan nach Buchara, Indien und Dağıstan, um dort zu studieren; in ihre Heimat zurückgekehrt, beherrschen sie als Geistliche oder Lehrer das geistige Leben ihres Landes. Dies führte im XVII., XVIII. und in der ersten Hälfte des XIX. Jahrhunderts zur Entwicklung der lyrisch-mystischen und religiösen Prosaliteratur. Die bedeutendsten Vertreter dieser Periode sind Mevlâ Kulu, Abdurrahman İmenî, Taceddin Yalçıloğlu, Ebulmenih, Şemseddin Sufî, Hibetullah İşan, Adilşah Molla und Abdünnasir Kursavî.

Zusammen mit dem religiösen Schrifttum bemerken wir in den gleichen Jahrhunderten die Spuren weltlicher Lyrik: der berühmte Dichter Kandalı schuf in heutigem Sinn einfache Werke in kazanischer Volkssprache. Ali Çukri erwarb sich durch seine humoristischen Gedichte einen Namen.

Die seit frühen Zeiten unterm Volk in mündlicher Überlieferung lebenden Liebeslieder und Heldenepen wie *Tahir-Zühre*, *Boz Yiğit*, *Edige*, *Çora-Batır*, wurden zu Ende des XIX. Jahrhunderts niedergeschrieben und gedruckt und waren die wichtigsten Quellen geistiger Nahrung für das Volk.

In Ergänzung der schriftlichen Urkunden, die wir oben als Werke der "Alten Periode" zusammenfaßten, können wir die Werke, die zwischen dem XVI. und XIX. Jahrhundert in Kazan und Umgebung entweder handschriftlich vervielfältigt oder, von 1711 an in Petersburg und seit 1800 auch in Kazan mit arabischen Schriftzeichen in Druckereien hergestellt und verbreitet wurden, unter folgenden drei Hauptgruppen untersuchen: 1—Einheimische Werke, 2—Aus Turkestan stammende Werke, 3—Werke osmanischer Herkunft.

#### 1—*Einheimische Werke:*

Von einem Teil dieser Werke kennen wir sowohl deren Verfasser als auch das Datum ihrer Niederschrift, von anderen wieder läßt sich die Zeit, der sie zugehören, nur vermuten. Dementsprechend können wir die der "Alten Periode" zugehörigen einheimischen Werke und die bekanntgewordenen Autoren folgendermaßen reihen:

- Kuran Tefsiri*. Geschrieben 1513, Kazan; das handgeschriebene Exemplar befindet sich gegenwärtig in der Bibliothek der Universität Kazan.
- Mahmud oğlu Muhammedyar, *Tuhfe-i Merdan*. Ein mit 1539 datiertes Exemplar befindet sich in der Leningrader Bibliothek der Akademie der Wissenschaften.
- Ein mit 1542 datiertes Exemplar eines weiteren *Nur-i Sudur* betitelten Werkes desselben Verfassers wird am gleichen Ort aufbewahrt.
- Muhammed Şerif, *Zafername-i vilayet-i Kazan*. Geschrieben 957/1550 (Januar-Februar); das in Türkî-Sprache gehaltene Original ist in der Bibliothek Zeytinoğulları der Kreisstadt Tavşanlı des Wilayets Kütahya in der Türkei, Blatt 60a-64b der Zeitschrift Nr.2348 registriert und von Z. V. Toğan in *İslâm Tetkikleri Enstitüsü Dergisi* III, 3-4, İstanbul, 1966, Seite 179-204 publiziert.

- Bayram Bulatoğlu, *Arap-Türkî lûgati*. Geschrieben 1581.
- Said Halfin, *Elifba*. Druckerei der Moskauer Akademie, 1774, 52 Seiten.
- İman Şartı* (Şerait ül-İman) Verfasser und Zeit der Niederschrift sind unbekannt. Daß dieses Werk sehr alter Herkunft und sehr weit verbreitet gewesen ist, erweisen einige Zahlen: In Kazan wurde dieses Werk im Jahre 1802 in 11.000, 1806 in 19.000, zwischen 1855 und 1864 in 147.600 Exemplaren aufgelegt. Ursprünglich hieß es *Elifba iman şartları birlen*, später wurde dieser Titel in *Şerait ül-İman* und *İman Şartları* umgeändert.
- Üstüvanî kitabı*. Kazan (1801–1829).
- Et-Tehecci*, Erstdruck in Kazan: 1801.
- İbrahim Halfin, *Şahinşahnî Kazan Gimnaziyasında lisan-ı Türkî ve hat-tı Arabî ügretile turgan elifa ile küçükçe nahiv sarfısıdır*. Kazan, Universitätsdruckerei 1809, 80 Seiten.
- Şah Ahmed Molla, *Murad el-Arifin tercümesi*. Erster Druck: Kazan 1809.
- İbrahim Halfin (aus dem Russischen übersetzt), *Çiçek salı turısında* (Über die Pocken-Impfung). Kazan, Asiatische Druckerei 1811, 72 Seiten. Zweite Auflage: 1819.
- Ahval-i Çingiz Han ve Aksak Timir*. Dieses seit dem Anfang des XVII. Jahrhunderts im Volke bekannte Werk wurde in der Mitte des XVII. Jahrhunderts kopiert, und ein Exemplar dieser Kopie wurde 1819 von İbrahim Halfin in der Universitäts-Druckerei in Kazan gedruckt. Zweite Auflage: 1822. Außerdem gibt es von diesem Werk noch ein Manuskript von Barudî.
- Vekayinameler* (Annalen). Diese Annalen sind an das Ende des *Ahval-i Çingiz Han ve Aksak Timir* betitelten Werkes angefügt, geschrieben wurden sie um 1750. Eine Handschrift wurde 1819 und 1822 durch İbrahim Halfin, die zweite Handschrift, 1882, durch Cihanşin in Kazan gedruckt. Die Katanof-Handschrift ist uns von den Kirgisen überkommen.
- Bedeвам kitabı*. Ein schon vor dem XVII. Jahrhundert zusammengestelltes, in Manuskriptform verbreitetes, gereimtes religiös-didaktisches Werk. Erster Druck: 1846, 16 Seiten.
- Dualık* (Gebetbuch), *Falname* (Wahrsagebuch), *Yulduzname* (Astrologie), *Ruya Tabirleri* (Traumbücher). Geht auf osmanische und tschagataische Quellen zurück. Ab 1847 begann man es in Kazan zu drucken. Sprachlich und literarisch von Bedeutung sind die am Anfang der Gebetbücher unter dem Namen "*Hasiyetleri*" gebrachten Erklärungen. Diese sind im allgemeinen in Türkî, Osmanisch oder Kazanisch abgefaßt. Nach dem Jahr ihres Druckes gereiht sind folgende die wichtigsten: 1847: *Esmâ el-Hasenî, Dua-i Seyfî, Dua-i Acayib el-İstifâr*, 1848: *Dua-i Cennet el-Esmâ, Dua-er-Ref-il-Vica*, 1851: *Dua-i ismi A'zam, Şerh-i dua-i Karınca yani kırmıska budur, Tılsım Şerif, Mühür Şerif, Başmak Şerif hasiyetleri bilen*, 1853: *Bizgek üçün dualar, Dua-i ümmüs-Sübyan, Dua-i iman, Dua-i Şerif, Yanga tagu üçün dualar*,

1858: *Du'a-i Kadh en-Nur*,

1860: *Mucme ed-Duavat* u.a.m.

Die oben verzeichneten Gebetbücher, von denen wir nur das Jahr ihres ersten Druckes angegeben haben, wurden, wie auch andere ähnliche, zu wiederholten Malen gedruckt, und haben hohe, zwischen 3.000–80.000 schwankende Auflageziffern erreicht. Erst mit Beginn des XX. Jahrhunderts ging der Druck von Gebetbüchern zurück, weil wissenschaftliche und technische Bücher größere Verbreitung finden und Fuß fassen konnten.

—Kadir Ali Bi (Übersetzer), *Cami et-Tevarih tercümesi*. Um 1600 zur Zeit des Boris Godunov in Kasim-Han Kirmen geschrieben; neben dem aus dem Jahre 1641 stammenden İbrahim Halfin-Manuskript gibt es noch die Barudî-Handschrift aus dem Jahre 1735. Das Halfin-Exemplar hat Berezin 1851 unverändert veröffentlicht.

—Alikey Atalık, *Alikey Atalık Vasiyetnamesi*: Geschrieben November 1639; es ist zuerst von Vel'-yaminov-Zernov in seinem Werke *Issledovaniya o Kasimovskich tsaryach i tsareviçach* veröffentlicht worden. I: 1863, II: 1864, III: 1866, IV: 1867.

—İsmail Hacı Bikmuhammed oğlu, *İsmail Sayahatnamesi*. Geschrieben: 1780. Erster Druck in Kazan: 1862; kommentierte Ausgabe von Rizaeddin bin Fahreddin: 1903.

—Mevlâ Kulu, Dichter, lebte um 1670. (Siehe A. Sagdi, *Tatar edebiyatı tarihi*, Kazan 1926. Seite 12 und İ. Remi, *Tatarça basma süz*, Seite 145.

—Adilşah Molla (gestorben 1813), (literarisch wertvolle Testamente).

—Adilşah Molla oğlu Devletşah Ahun, *Risale-i Nacatiye*.

—Cemaleddin bin Biktaş (gestorben 1873), *Fezail-i şühur*. Gekürzter erster Druck: Kazan 1845, 64 Seiten.

—*Hikâyet kitapları* (Erzählungen). Aus dem Osmanischen und Tschagataischen übersetzt oder adaptiert. Von 1846 an wurden sie in Kazan gedruckt und bis 1905 weitergedruckt; mit dem Vordringen der neuen Literatur verschwanden sie allmählich. Sie gehen auf orientalische, gewöhnlich osmanische Märchen wie Tausend und eine Nacht zurück. Ihre Verfasser sind unbekannt, in den spätesten Auflagen trifft man Übersetzernamen an. Am bekanntesten sind:

*Melike Kitabı*, erster Druck: 1846; *Bir Zalim, ayyar ve alim Kadı*, 1857; *Duheri Sultanı Keşmir*, 1871; *Ebulkasim Hikâyesi*, 1893; *Hikayet Magrib*, 1890; *Tayyarzade*, 1900. (Übersetzt von Şihabeddin Rahmetullah); *Klof bile Dilare*, 1901 (Übersetzt von Şihabeddin Rahmetullah) *Kalef bile Turandık hikâyeti*, 1902 (Übersetzt von Şihabeddin Rahmetullah) *Yiğit Kişi* u.a.m.

—Taceddin Yalçıgıloğlu (gestorben 1837), *Risalei Gazize*. 1807 als Kommentar zu Sufî Allah Yars Werk *Sebat el-Acizîn* geschrieben. Erster Druck: Petersburg 1817, 369 Seiten.

—W. Radloff, *Bilik*. (Lesebuch für Kinder), Kazan 1872.

—*Edige Destanı*. Die nogayischen, krimschen, kazanischen und sibirischen Varianten

der Legende, die sich um die Gestalt des Edige Mirza (gestorben 1419), der zur Zeit der Kämpfe zwischen Timir und Toktamış gelebt hat, rankte. Seit 1820 gesammelt und untersucht.

- Çora Batur*. Eines der Volksepen, die nach dem Edige Destanı entstanden.
- Koblandı Batur*. Eine zeitlich nach dem Edige Destanı entstandene Volkssage.
- Urazay Muhammed Zarif oğlu Molla Ahmed, *Kıssa-i Boz Yiğit*. Erster Druck: 1876. Unter Benützung osmanischer Exemplare zusammengestellt.
- Urazay Muhammed Zarif oğlu Molla Ahmed, *Kıssa-i Tahir ile Zühre*. Geschrieben: 1879. Erster Druck: 1879(?), 64 Seiten, Unter Benützung osmanischer Exemplare zusammengestellt.
- Kıssa-i Nabruz* (in den späteren Exemplaren: *Nevruz*). Stammt aus dem Iran, im İdil-Uralgebiet geschrieben: XVIII. Jahrhundert. Erster Druck in Kazan: 1888.
- Hisam-ed Din bin Şeref ed-Din el-Müslimî, *Risalet-i tevarih-i Bulgariye ve zikr-i mevlâna Hazret-i Aksak Timir ve harap Şehr-i Bulgar*. (Wenn es darin auch heißt: "Ich habe es zwischen 1551 und 1582 geschrieben," so gehört es vermutlich doch erst dem XVIII. Jahrhundert an). In Kazan wurde es zuerst 1887 nach der 1832 datierten Handschrift gedruckt.
- Abdurrahim Otuz İmenî (1730–1815), Dichter, seine bedeutendsten Werke sind: *Risale-i Mühimme*, in der Türkî-Sprache abgefaßtes moralisches Werk in Versen; in arabischen Schriftzeichen geschriebener Kommentar zu *Sebat el-Acizîn*; arabischer Kommentar zu *Murad el-Arifîn*; *Teşni' es-Süfefa Tenkidi*, in Türkî-Sprache, gereimt; *Tenzih el-Efkâr*, in Türkî-Sprache, gereimt; *Gavarif el-Zaman*, in Türkî-Sprache, gereimt; *Neşr el-Takrib*, in Türkî-Sprache gereimt, im *Risale-i Mühimme* gedruckt; *Cenah el-Fellah fî Zemm ül-Mubah*, in Türkî-Sprache, gereimt; *Seyf es-Sarım*, Persisch (?); *Tuhfet el-Mülûk*, aus dem Persischen übersetztes Traumdeutungsbuch; *Dürret ül-Fahire* veya *Ahiret Name*, übersetzt aus einer fremden Sprache; Streitgedicht zwischen Männern und Frauen, in Türkî-Sprache geschrieben, aber wegen seiner derben Ausdrücke nicht gedruckt.
- Ebulmenih Hacı, (gestorben 1824/1825), Dichter. Gedrucktes Werk: *Tercüme-i Hacı Ebu-l-Menih el-Bistevî el-Saidî*, Versdichtung in Türkî-Sprache, erster Druck: Kazan 1845, 51 Seiten.
- Abdülkahir Süleymanoğlu (1769–1831/1832), ein einziger Brief in Versen bei *Aşar* erschienen, andere Werke von ihm sind nicht bekannt.
- Abdülcebbar Kandalı (gestorben 1850). In K. Nasirîs *Fevakih el-Cülesâ* sind 3, *Sahip Cemal*, *Bedi'a*, *Ferhî* betitelte Gedichte eingefügt, die sich an Frauengestalten richten.
- Şemseddin Sufî-Zekî ("Zek" li), (gestorben 1865). Außer 7 bei *Aşar* erschienenen Gedichten ist kein weiteres Werk bekannt.
- Hitabetullah İşan (1794–1867); Außer dem bei *Aşar* veröffentlichten *Tende canım niçe kün mişman ikendir bilmedim* betitelten Gedicht sind zwei seiner Werke gedruckt:

*Mucme ul-Adab und Tuhfet el-Evlâd.*

- Mahmud Şirvanî (1812–1877); das einzige vorhandene Werk, von dem wir wissen, daß es ihm zugehört, ist ein in *Aşar* veröffentlichtes kurzes Gedicht über Bulgar.
- Ali Çukrî (gestorben 1889), humoristischer Dichter.
- Beyitler*: (In Doppelversen gehaltene Versdichtung). Aus der Literatur der alten Periode liegen 4 Versdichtungen vor, deren Urheber unbekannt sind:
  - 1) *Mahbublerge Selâmname*, Liebesgedicht in einer ins Tschagataische spielenden Sprache.
  - 2) *Çey beyiti*, (Tee-Gedicht), humoristisches Gedicht in einer ins Osmanische spielenden Sprache.
  - 3) *Kilin beyiti* (Braut-Gedicht), in kazanischer Mundart geschrieben.
 Diese drei Versdichtungen sind in K. Nasirîs Werk *Fevakih el-Cülesâ* erschienen.
  - 4) *Kece beyiti* (Ziegen-Gedicht); dieses in kazanischer Mundart geschriebene Gedicht ist in Abdul-allam Feyizhans Werk *Hikâyet ve Makalat* erschienen.

2—*Werke turkestanischer Herkunft:*

Wir beabsichtigen nicht, hier das gesamte Material der reichen türkischen Literatur zu behandeln, das vor und nach Timurs Zeit in Mittelasien geschaffen wurde, vielmehr wollen wir uns damit begnügen, einige Werke zu erwähnen, die im İdil-Ural-Gebiet entweder in ihrer Originalform oder in die kazanische Mundart übertragen als Handschrift oder gedrucktes Werk im Umlauf waren und im Kulturleben von Kazan eine große Rolle spielten.

- Hoca Ahmed Yesevî (gestorben 562/1166), *Divan-ı Hikmet*. Geschrieben: 2. Hälfte des XII. Jahrhunderts. Erster Druck in Kazan: Ende des XVII. Jahrhunderts.
- Sufi Allah Yar (gestorben 1713, Buhara), *Sebat el-Acizîn*. Geschrieben: Ende des 17. Jahrhunderts. Erster Druck in Kazan: 1802, 64 Seiten.
- Kıssai Seyf el-Mülk*. Autor unbekannt, vermutlich aus dem XV. Jahrhundert, erster Druck in Kazan: 1807, 72 Seiten.
- Ebu-l Gazi Bahadır Han, *Şecere-i Türkl*. Geschrieben: 1663. Zusammen mit dem lateinischen Vorwort von N.P. Rumyantsev wurde der von İbrahim Halîf überarbeitete Originaltext 1825 in der Universitäts-Druckerei Kazan zum ersten Mal aufgelegt; in Paris brachte der Verlag Desmaison das Werk im Jahre 1874 heraus. Durch Abdulallam Feyizhan in die kazanische Mundart übertragen, erschien es 1891 in Kazan.
- Süleyman Bakırganî oder: Hakim Ata (lebte in der zweiten Hälfte des XII. Jahrhunderts). *Hakim Ata Kitabı* (Eine Art Autobiographie des Süleyman Bakırganî). Erster Druck in Kazan: 1846, 47 Seiten.
- Süleyman Bakırganî, *Bakırgan Kitabı*. Erster Druck in Kazan: 1846.
- Süleyman Bakırganî, *Ahur zaman kitabı* oder *Taki gaceb kitabı*. Geschrieben: XII. Jahrhundert. Erster Druck in Kazan: 1847.
- Şeybanî Name*. Geschichte der Mongolen und Türken, Kazan 1849.

- Şeyh Şeref, *Revnak el-İslam*. Geschrieben: 869/1464–1465, erster Druck in Kazan: 1850, 64 Seiten.
- Zahirüddin Muhammed Babür, *Babürname*. Geschrieben: 1493–1529; erster Druck in Kazan: N. İlminsiy, *Baber-Nameh*, Kazan 1857.
- Mahzen el-Esrar*. Autor und Niederschrift unbekannt, jedoch nicht vor dem XV. Jahrhundert entstanden. Erster Druck in Kazan: 1858, 31 Seiten.
- Nasreddin bin Burhaneddin Rabguzî, *Kısas el-Enbiya*. Geschrieben: 710/1310–1311. Kam sehr früh nach Kazan, erster Druck: 1859 (zwischen 1859 und 1891 wurde es 6 mal gedruckt).
- Ali, *Yusuf Kitabı* oder *Kıssa-i Yusuf Aleyhisselâm*. Geschrieben: etwa in den Jahren 1212–1233. Erster Druck in Kazan (?).
- Süleyman Bakırganî, *Hazreti Meryem Kitabı*. Erster Druck in Kazan: 1878.

### 3—Werke osmanischer Herkunft:

Viele zur Zeit der Seldschuken und Osmanen in Anatolien entstandene Werke religiös-mystischen, didaktischen Charakters und Volksepen waren, sei es in ihrer Originalform, sei es in die kazanische Mundart übertragen, handschriftlich oder gedruckt im İdil-Ural-Gebiet weit verbreitet und haben bis in den Anfang des XX. Jahrhunderts einen großen Einfluß auf das geistige Leben ausgeübt. Die wichtigsten sind:

- Yazıcıoğlu Muhammed Çelebi, *Muhammediye*. Geschrieben: 853/1449, erster Druck in Kazan: 1845.
- Kıssa-i Fettah ed-Din*. Schrift über den Heiligen Krieg. Erster Druck in Kazan (?).
- Yedi gazavat kitabı*. Sieben religiöse Erzählungen in einem Sammelband vereint: 1) Kan kalesi, 2) Hayber Kalesi, 3) Ateş perest, 4) Muhammed Hanife Bigazenfer, 5) Biejderha der Magrib, 6) İmam Hasan, 7) İmam Hüseyin. Erster Druck in Kazan (?).
- Mülk Darab oğlu Firuz Şahnuñ *Cazular bilen gaza kılğannıñ kıssası*. Erster Druck in Kazan (?), 140 Seiten.
- Menakibi Seyid Battal Gazi*. Wurde sowohl in Istanbul als auch in Kazan oft aufgelegt. Kritische Ausgaben: 1848 von Fleischer und 1871 von H. Ethe.
- Tuti Name*. Indischer Herkunft. Ins Osmanische übertragen von Sarı Abdullah Efendi (gestorben 1661). Ab 1851 in osmanischer Fassung in Kazan gedruckt. 1887 hat Abdulallam Feyizhan das Werk in kazanische Mundart übertragen und herausgegeben.
- Dasitan-i Hatem Tay*. Es ist eine Erzählung, die sich auf das Leben des Hatem Tai oder auch Abu Adi bin Abdullah bin Sa'd genannten freigebigen Arabers bezieht. In der aus dem Osmanischen in kazanische Mundart übertragenen Fassung wurde es sehr oft gedruckt.
- Abu Ali Sina hikâyeti*. Erster Druck in osmanischer Sprache in Kazan: 1864; von K. Nasirî wurde es 1872 ins Kazanische übertragen und 1881 unter dem Titel

- Reis el-Hukema Abu Ali Sina kıssası demekle meşhur tahayyulatnıñ tercümesi* herausgegeben. Zwischen 1881 und 1900 wurde es fünfmal gedruckt. 1900 von Molla Şihab Abdulaziz oğlu Rahmetullah aufs neue übertragen, wurde es 1902 gedruckt.
- Kırk vezir*. Eine Sammlung volkstümlicher Erzählungen, geschrieben zwischen 1421 und 1451 von Şeyh Zade Ahmet Mısırlı. 1868 von Kayyım Nasırlı zum ersten Mal ins Kazanische übertragen und veröffentlicht, wurde es bis 1900 8 mal gedruckt.
- Letaifi Hoca Nasreddin*. Erster Druck in Kazan: 1845.
- Muhammed Pirgali (1535–1573), *Pirgali Kitabı (Pir Ali vastıyettı)*. Erster Druck in Kazan: 1802.
- İsmail Hakkı (gestorben 1186/1772–73), *Marifetname*. Erschien 1895 in Kazan in gekürzter Fassung.
- Çıkrıkçızade, Muhammed b. Ahmed, (gestorben 1823), *Altı Parmak*. (Delail-i Nübüvvet-i Muhammedî ve Şemal-i fütüvvet-i Ahmedî). Erster Druck in Kazan: 1861.

#### *Das Druckereiwesen und die ersten in Rußland türkisch gedruckten Werke*

Der Druck mit arabischen Schriftzeichen beginnt in Rußland (Petersburg) in den Jahren 1710–11. Es existieren in Türkî-Sprache gedruckte Regierungserlässe aus den Jahren 1711, 1716 und 1725. Im Jahre 1764 wurde das Drucken durch die Errichtung einer besonderen Druckerei erweitert. Anläßlich der Reise der Kaiserin Katharina II. (1762–96) nach Kazan (1766) wurde 1769 in der Druckerei der Petersburger Akademie ein 58 Seiten umfassendes *Duhovnaya Tseremoniya* betiteltes Werk in russischer, türkischer, tschuwaschischer und marischer Sprache gedruckt und verbreitet. 1775 wurde unter dem Titel *Katerina Saniye hazretleriniñ kanunu cedidi* ein Buch von 250 Seiten gedruckt. Die Zeitschrift *Polojenie upravi blagoçeniya*, in der einige Regierungserlässe erschienen, wurde von İshak Halfin in Türkî übersetzt und 1782 herausgegeben. 1776 erschienen zwei aus dem Französischen in Türkî übersetzte Werke: *Türk dili grameri* und *Türkçe kıraat kitabı*.

Wie ersichtlich, gehen die von uns oben aufgezählten gedruckten Werke zum größten Teil auf die Initiative der russischen Regierung zurück. Als erstes in türkischer Sprache verfaßtes gedrucktes Werk können wir das folgende erwähnen: Sait Halfin, *Tatar tili elifbası*, Druckerei der Moskauer Akademie, 1774, 52 Seiten. Da dieses Werk jedoch auch ein amtlicher Staatsdruck ist, blieb es auf den engen Kreis der in staatlichen Einrichtungen beamteten Personen beschränkt und gelangte nicht in die Hände des Volkes. Über den ersten Druck des Korans in Rußland liegen zwei verschiedene Angaben vor: die Enzyklopädie *Brokgauz-Efron* gibt 1785 als Jahr des Erstdruckes an, während Dorn dafür das Jahr 1787 nennt.

Auf den Erlaß der Kaiserin Katharina II. vom 11. I. 1783 hin, durch den auch in anderen Städten Druckereien eröffnet werden durften, folgte am 25.V.1800 der Befehl für die Verlagerung der Petersburger Asiatischen Druckerei nach Kazan; die erste Druckerei, dem Abdülaziz Burasaf zur Pacht gegeben, wurde neben dem Gymnasium von

Kazan, dem sie verwaltungsmäßig unterstellt war, unter dem gleichen Namen "Asiatische Druckerei" eröffnet und dem İbrahim Halfin die Ausübung der Zensur übertragen. Als erstes Werk wurde in dieser Druckerei im Jahre 1801 *Heftiyek*, eine Sammlung ausgewählter Stellen aus dem Koran, gedruckt. Das zweite, noch im gleichen Jahr gedruckte Werk ist *Et-Tehecci*.

Von den 1802 gedruckten Büchern, die insgesamt 22 Druckbögen ausmachten, sind uns nur 3 bekannt und zwar: *Şarait ül-İman*, Sufi Allahyars *Sebat el- Acizîn* und *Pirgali Kitabı*. Im Jahre 1803 wurde nur der Koran gedruckt, der, 36 Druckbögen stark, in 2000 Exemplaren erschien. Die "Asiatische Druckerei" wurde von 1806–1814 durch Yusuf oğlu Ali Apanay, von Juni 1814 bis zum Sommer 1829 von Ubaydulla Muhammed Rahim oğlu Yunus geleitet, und von den bisher gedruckten Werken wurden zu wiederholten Malen der *Koran*, *Heftiyek*, *Elifba* und *Sebat el- Acizîn* neu aufgelegt. Wir bringen im folgenden eine Zusammenfassung der Werke, die in dieser Druckerei zwischen 1801–1829 gedruckt wurden, sowie die Anzahl ihrer Auflagen:

*Elifba (İman Şartı)* 7 mal, *Heftiyek* 12 mal, *Et-Tehecci* 2 mal, *Stuani kitabı* 5 mal, *Pirgali* (gereimt) 3 mal, *Pirgali* 3 mal, *Feyz el-Necat* 2 mal, *Sebat el-Acizîn* 6 mal, *Kur'an* (vollständige Ausgabe) 6 mal, *Kur'an* (erste Hälfte) 1 mal, *Kur'an* (zweite Hälfte) 1 mal, *Yasin suresi* 1 mal, *Ahmediye* 1 mal, *Muhammediye* 1 mal, *Seyf el-Mülk* 2 mal.

1809 wurde unter dem Namen "Universitäts-Druckerei" noch eine weitere Druckerei eröffnet und die "Asiatische Druckerei" dieser angegliedert. Die nach diesem Datum gedruckten Werke sind oben der Reihe nach angeführt worden. Aus all diesen Werken können wir İbrahim Halfins *Sarf* (1809), Şah Ahmed Mollas *Murad el-Arifîn tercümesi* (1809), *Çiçek salı turısında* (1811), *Ahval-i Çingiz Han* (1819) und *Şecere-i Türkî* (1825), hervorhebend erwähnen.

Wir haben in unserer kurzen Übersicht nur Werke der Literatur des Nord-Türkischen oder des Kazanischen angeführt, die der "Alten Periode" zugehören. Diese Periode erstreckt sich bis etwa in die Mitte des XIX. Jahrhunderts. Auf sie folgt die "Ceditçilik-Periode," die sich von der Mitte des XIX. Jahrhunderts bis 1917 erstreckt, und die "Neue Periode," die mit 1917 beginnend, bis in unsere Tage andauert. Jede dieser beiden letztgenannten Perioden erfordert jedoch eine besondere Untersuchung.

TÜRK KÜLTÜRÜNÜ ARAŞTIRMA ENSTİTÜSÜ, TURKEY

#### BIBLIOGRAPHIE

- Aşmarin, Nikolay, *Oçerk literaturnoy deyatel'nosti Kazanskich Tatar-Mohammedan za 1880–1895 gg.* Pod. red. A. E. Krivskago. Moskva, Tipografiya Varvari Gatsuk, 1901, VI+58 Seiten.
- Battal—Taymas, A., *Yeni Kazan Türk Edebiyatına Kuşbakışı*. Sonderdruck aus: *Türk Yurdu*, Ankara Februar-März 1966, 12 Seiten.



- Çağatay, Saadet, *Abd-ül Kayyum Nasirî*. Dil ve Tarih-Coğrafya F. Dergisi, X, 3-4, Ankara 1952, Seite 147-160.
- Dorn, *Chronologisches Verzeichnis der seit dem Jahre 1801 bis 1806 in Kazan gedruckten arab., türk., pers., und tatarischen Werke*. (Das Werk ist auf Seite 74 der von G. Rahim und G. Gaziz verfaßten *Tatar Edebiyatı Tarihi* III, 1922, zitiert).
- Gusmanof, Gaziz, *Ural Tatar Edebiyatının üsü baskıçları*. Bizniñ Yul; Heft 8, Seite 13-20, Kazan 1929.
- Heyet, *Kayyum Nasirî Mecmugesi*. T.S.S.C. Staatliche Veröffentlichung, Kazan 1922, XXIV+160 Seiten, 1 Abbildung.
- Köprülüzade Mehmed Fuad, *Türk Edebiyatında ilk Mutasavvıflar*. İstanbul, Matbaai Amire 1918, 446 Seiten.
- Köprülüzade Mehmed Fuad, *Türk Edebiyatı Tarihi*. İstanbul 1926, Millî Matbaa, 386 Seiten, 7 Karten.
- Kurat, Akdes Nimet, *Topkapı Sarayı Müzesi Arşivindeki Altın Ordu, Kırım ve Türkistan Hanlarına ait yarlık ve bitikler*. İstanbul, 1940, Bürhaneddin matbaası, 212 Seiten, (40 Seiten Photokopie). —Dil ve Tarih-Coğrafya Fakültesi yayınlarından, Tarih Serisi 1.
- Mercanî, Şihab ed-Din, *El-Kısmı-l evvel min Kitab Müstefad-ül-Ahbar fi Ahval-i Kazan ve Bulgar*. Kazan 1900, 386 Seiten.
- Mercanî. Şihab ed-Din el-Mercanî hazretlerinin vilâdetine yüz yıl tulu (1233-1333) münasebetiyle neşir edildi. Naişri: Salih bin Sabit Gubaidullin, 1333 sene, Maarif Maatbaası Kazan'da, VII+639 Seiten.—Photokopie der Handschrift Mercanîs und mit Bildern versehen. Mitglieder des Redaktionsstabes: Şehir Şeref, Molla Keşşaf ed-Din Tercümanî, Gabbullah ibn Molla Tuhfet-Ullah Gismetî, Tahir İlyas, G. Gaziz Gubaidullin.
- Nasirî, Kayyum, *Arheologiya Materyalları* (Züye üyezi avılları buyunça).—Kayyum Nasirî'nin muñarçı basılmagan eserleri hem yüz yıllık beyrem materyalları, Gali Rahim karamagında. Kazan 1926, Seite 33-59.
- Rahim, Gali, Gaziz, G., *Tatar Edebiyatı Tarihi*. I,  
 1: *Burungı devir, medhal*, Kazan 1924, XIV+175 Seiten;  
 2: *Burungı devir*, Kazan 1925, 244 Seiten;  
 3: *Burungı devir, 17.18.19. gasırlarda iski edebiyat*, Kazan 1922, VI+186 Seiten. Tatarıstan Cumhuriyetiniñ Devlet neşriyatı.
- Rahim, Gali (unter Leitung von), *Kayyum Nasirî'niñ muñarçı basılmagan eserleri*. Tatarıstan Devlet neşriyatı Basması, Kazan 1926, 135 Seiten.—Tatarıstan Halk Maarif Komissariyatınıñ ülkeni üyrenü Bürosu.
- Rahim, A., *Tatarskie epigrafičeskie pamyatniki*, Tatarstannı Üyrenü Cemiyeti Hizmetleri, Kazan 1930, Seite 145-172, 3 Tafeln.
- Remi, İsmagil, *Tatarça basma süz*. Sovet Edebiyatı Nr.8, Kazan 1926, 300 Seiten.
- Sagdî, Abdurrahman, *Tatar edebiyatı tarihi*, Derslik-kullanma, Tatarıstan Devlet Neşriyatı Basması, Kazan 1926, 300 Seiten.

- Thomsen, Kaare, *Das Kasantatarische und die westsibirischen Dialekte*. Philologiae Turcicae Fundamenta I, Wiesbaden 1959, S. 407–421.
- Validov, Camalüddin, *Oçerk istorii Obrazovannosti i literaturı Tatar* (Do revolyutsii 1917). Moskau-Leningrad., Staatliche Veröffentlichung, 1923, 106 Seiten.—Tatarskaya Literatura v perevodach na russkiy yazık, pod. red. P. Radimova i Galimcana Şaraf.
- Zajączkowski, Ananiasz, *Ze Studiów nad zagadnieniem Chazarskim*. Etudes sur le problème des Khazars (avec résumé français). Karakow 1947, 99 Seiten.—Polska Akademia Umiejetności, Mémoires de la Commission Orientaliste No. 36.

## ЗАМЕТКИ ПО ЯЗЫКУ ХАЙЯНЬСКИХ (КУКУ-НОРСКИХ) МОНГОЛОВ

Б. Х. ТОДАЕВА

Во время лингвистической экспедиции 1956 года мне удалось побывать в провинции Цинхай, в частности у монголов уезда Хайянь (недалеко от о. Куку-нор), познакомиться с их языком, записать небольшие тексты по устному народному творчеству.

Монголов, проживающих на территории провинции Цинхай, насчитывается около 40.000 человек. Из них в уезде Хайянь живет 1.500 монголов. Эти монголы делятся на две неравные части—на монголов, исповедующих буддизм и на монголов—мусульман. Последних—около 200 человек.

Как и остальные монголы, они занимаются скотоводством, ведут кочевой образ жизни, живут в юртах. Одеваются они как тибетцы. Женщин-мусульманок отличает головной убор, цвет которого различается в зависимости от их возраста. Молодые женщины покрывают голову шапкой-шлемом черного цвета, пожилые—белого. Мужчины носят маленькие черные шапки. В этом отношении они близки к дунсянам и баоаням—двум монгольским народностям, проживающим в провинциях Ганьсу и Цинхай.

В отличие от другой части монголов, исповедующих буддизм, монголы-мусульмане сами себя называют “тумағ или туғмаг моңғол.” Слово тумағ или туғмаг может быть разъяснено на основе данных из других монгольских и тюркских языков. В калмыцком языке существовали слова *tumɔɣ* ‘туманный,’ ‘темный’ и *tumɔɣɔ* ‘быть взволнованным,’ ‘печальным.’<sup>1</sup> Близкое значение мы находим в старописьменном монгольском языке *ᠲᠤᠮᠠᠭᠤᠯᠠᠬᠤᠠᠨ* *tomak* 1. звериный след; 2. тоска, грусть; *ᠲᠤᠮᠠᠭᠤᠯᠠᠬᠤᠠᠨ* *tomaglakhou* ‘тосковать,’ ‘грустить.’<sup>2</sup>

Это название монголов-мусульман—тумағ или туғмаг в дальнейшем стало территориальным названием небольшой группы этих монголов.

Быть может, обособление незначительной части монгольского населения от остальной массы монголов, принятие ими религиозного верования и обычаев другого народа, переход женщин-мусульманок на темный цвет

<sup>1</sup> *Kalmückisches Wörterbuch* von G.J. Ramstedt. Helsinki, 1935. S. 140

<sup>2</sup> *Монгольско-русско-французский словарь*. Проф. О.Ковалевский. Казань, 1849. Том III., стр. 1863.

одежды и на специальный головной убор и т.д. и послужило поводом к тому, что они стали рассматривать себя как затерянную, оторванную от остальных группу монголов.

Можно также предположить, что наименование *тумаг* или *тузмаг* *моңғол* было присвоено им и соседними монголами-буддистами в связи с тем, что всем монголам-мусульманам привычно прикрывать голову шапкой. Особенным усердием отличаются монголки—мусульманки, закрывающие голову специальным головным убором—шлемом, оставляющим открытым только лицо. Иными словами, монголы, живущие с ними рядом, чтобы выделить их из числа остальных монголов-буддистов, могли называть их “монголами-шапочниками.”

Еще К.Ф. Голстунский пояснял: *ᠲᠤᠮᠠᠭ* томогу (калм. яз.) шапка, надеваемая на голову ловчей птицы для прикрытия глаз.<sup>3</sup> В тюркских языках, в частности в киргизском, встречается слово *тумак*, которое означает: 1) малахай; 2) шапка-ушанка.<sup>4</sup> Толковый словарь русского языка, указав на первоначальный источник этого слова—<тюрк. *tumaq*— меховая шапка>, третьим значением его дает: ушастая шапка, треух.<sup>5</sup> К сожалению, сведений о том, когда и кем они стали именоваться *тумаг* или *тузмаг* монголами, не имеется.

По рассказам местных монголов, весь род монголов-мусульман берет свое начало от нескольких уйгуров, живших больше века тому назад в этой местности и женившихся на монголках. В начале такая смешанная семья исповедывала буддизм, а затем постепенно стала отходить от него, приняв мусульманство. Однако монгольский язык и уклад жизни стали доминирующими.

Монголы уезда Хайянь—и буддисты и мусульмане—общаются друг с другом на одном и том же монгольском языке. Следует заметить, что язык хайяньских монголов в нынешнем его состоянии сочетает в себе особенности двух языковых групп, условно называемых нами западной (язык монголов Синьцзян-Уйгурского автономного района) и восточной (язык монголов автономного района Внутренняя Монголия). Они сами признают, что их речь *хольмаг*, т.е. смешанная речь.

Известно, что несколько веков назад монголы провинции Цинхай были более многочисленны, находились раньше на единой территории с монголами Синьцзян-Уйгурского автономного района и общались на одном и том же языке. В силу исторических условий они оказались потом разобщенными и разбросанными на обширном пространстве провинции Цинхай.

<sup>3</sup> К.Ф. Голстунский. *Монгольско-русский словарь.*, стр. 240.

<sup>4</sup> *Киргизско-русский словарь.* Проф. К.К. Юдахин. М., 1965., стр. 765.

<sup>5</sup> *Толковый словарь русского языка.* М., 1940., Том 1У., стр. 826.

Оказавшись по условиям быта в известном контакте с соседними монголами автономного района Внутренняя Монголия, монголы провинции Цинхай, в особенности монголы уезда Хайянь, со временем подпали под влияние инодиалектного монгольского населения.

В результате этого монголы уезда Хайянь несколько видоизменили свой язык, приспособившись двояко:

- а) постепенно утратив некоторые исконные ойратские особенности и
- б) заимствовав некоторые новые для них монгольские элементы.

В области фонетики—1) прежние гласные переднего ряда  $\ddot{o}$ ( $\ddot{ö}$ ) и  $\ddot{y}$ ( $\ddot{y}$ ) в известной части слов несколько отодвинулись назад, переходя в гласные среднего ряда  $\ddot{e}$ ( $\ddot{e}$ ) и  $\ddot{y}$ ( $\ddot{y}$ ). Следовательно, произошло и увеличение числа фонем в группе гласных переднего ряда, огубленных, с четырех раньше ( $\ddot{o}$ ,  $\ddot{ö}$ ,  $\ddot{y}$ ,  $\ddot{y}$ ) до восьми в настоящее время ( $\ddot{o}$ ,  $\ddot{ö}$ ,  $\ddot{y}$ ,  $\ddot{y}$ ,  $\ddot{e}$ ,  $\ddot{e}$ ,  $\ddot{y}$ ,  $\ddot{y}$ ). Примеры:  $\ddot{o}$ вл 'зима'  $\ddot{d}$ өрвн 'четыре,'  $\ddot{h}$ ув 'доля,' 'часть,'  $\ddot{y}$ нег 'лисица.'

2) Утрата спиранта  $\ddot{z}$ . Как известно, старописьменный монгольский  $\ddot{z}$  соответствует в позиции перед гласными (кроме  $\ddot{i}$ ) аффрикате  $\ddot{dz}$  в современном монгольском (халха), в диалектах и говорах языка монголов автономного района Внутренняя Монголия—шилиньгольском, алашаньско-эдзинском;  $\ddot{dz}$ —в чахарском, ордосском, хорчинском, тогда как в ойратском диалекте—спиранту  $\ddot{z}$ . В речи монголов уезда Хайянь встречается только  $\ddot{dz}$ :  $\ddot{dz}$ ун 'лето,'  $\ddot{dz}$ аг 'пространство,' 'промежуток,'  $\ddot{dz}$ эх 'перевозить,' 'таскать.'

3) В речи хайяньских монголов на месте  $\ddot{g}$  перед  $\ddot{t}$  и  $\ddot{sh}$  имеется спирант  $\ddot{x}$ , тогда как в языке монголов Синьцзян-Уйгурского автономного района он остается без изменения, например:

старописьм. монг.	ойратский	хайяньск. монголы
$\ddot{b}$ ar $\ddot{s}$ i учитель	багш	бахш
$\ddot{a}$ r $\ddot{t}$ a рысак	агт	ахт
$\ddot{c}$ og $\ddot{t}$ ur искре	цогт	цохт

Как видно из последнего примера, согласный  $\ddot{g}$  ассимилируется и тогда, когда к нему присоединяется суффикс, начинающийся на  $\ddot{t}$ .

4) Нередки перестановки согласных. С такими взаимно перемещаемыми звуками употребляются слова:  $\ddot{x}$ олб $\ddot{o}$ ~ $\ddot{x}$ обл $\ddot{o}$  'связь,' 'союз';  $\ddot{c}$ улб $\ddot{u}$ р~ $\ddot{c}$ убл $\ddot{u}$ р 'поводья';  $\ddot{d}$ огшан~ $\ddot{d}$ ошган 'свирепый';  $\ddot{k}$ өгшөн~ $\ddot{k}$ өшгөн 'пожилой,' 'старый.'

5) Наличие в речи монголов уезда Хайянь только лишь монофтонгов:  $\ddot{k}$ итн 'холодный';  $\ddot{c}$ ир $\ddot{e}$  'лицо,' 'облик';  $\ddot{d}$ ал $\ddot{a}$  'океан.' При этом слова с гласным огубленным  $\ddot{o}$  в первом слове слова в следующем слове тоже получают  $\ddot{o}$  (но всегда долгий), а не  $\ddot{a}$  (долгий), как это ожидалось. Ср. примеры: в речи монголов Синьцзян-Уйгурского автономного района  $\ddot{x}$ орм $\ddot{a}$  'подол,'  $\ddot{sh}$ ор $\ddot{a}$  'пыль,'  $\ddot{n}$ ох $\ddot{a}$  'собака' соответственно в речи монголов уезда Хайянь будет  $\ddot{x}$ орм $\ddot{o}$ ,  $\ddot{sh}$ ор $\ddot{o}$ ,  $\ddot{n}$ ох $\ddot{o}$ .

6) Сохранился взрывной переднеязычный согласный **к**, который типичен для языка монголов Синьцзян-Уйгурского района: *күн* 'человек,' *кедзэ* 'когда,' *такā* 'курица,' *кід* 'монастырь.'

Морфологическая система так же известным образом приновилась к новым условиям жизни языка.

1) В речи хайяньских монголов с течением времени исчезли из употребления лично-предикативные частицы—усеченные формы личных местоимений. Лично-предикативные частицы представляют одну из характерных особенностей языка монголов Синьцзян-Уйгурского автономного района и используются строго и последовательно. Следовательно в речи хайяньских монголов так же, как и в диалектах языка монголов автономного района Внутренняя Монголия ожидалась бы одна и та же форма глагола, которая может в одинаковой мере относиться ко всем трем лицам обоих чисел. Лица передаются здесь посредством самостоятельно используемых личных местоимений, стоящих перед глаголом-сказуемым: *бі* *јавлā* 'я пошел'; *чі* *јавлā* 'ты пошел'; *бід* *јавлā* 'мы пошли'; *та* *јавлā* 'вы пошли.'

2) В нем отсутствует вторая форма условного деепричастия на *-хлā* *-хлā*. Данная форма вытеснена параллельной формой на *-вал*, которая известна и более распространена в диалектах языка монголов автономного района Внутренняя Монголия.

3) Порядковые числительные образуются посредством суффикса *-дугār*, *-дүгёр*: *тавдугār* 'пятый,' *негдүгёр* 'первый.' Подобный суффикс типичен для всех диалектов языка монголов Китая, кроме ойратского, представленного в Синьцзян-Уйгурском автономном районе.

4) В личном местоимении 1-го лица единственного числа основой образования косвенных падежей является *над*, а не *нан*, как это предполагалось бы в речи, близкой к ойратской. Таким образом местоимение *бі* 'я' в дат.-местном—*над* 'мне', орудном—*надār* 'мною', исходном—*надās* 'от меня' и т.д.

В лексике заметно употребление значительного количества слов, типичных для диалектов языка монголов автономного района Внутренняя Монголия. К ним можно отнести такие слова, как *ард* 'араты,' 'трудящиеся,' *ірген* 'народ,' 'люди,' *аджіл* 'работа,' 'труд,' *дзёс* 'монета,' *цонх* 'окно,' *дарга* 'начальник,' 'председатель' и многие другие.

Однако инодиалектные монгольские слова не вытесняют соответствующие слова из их родной речи, а можно сказать сосуществуют параллельно с ними для обозначения одного и того же понятия. Ср. несколько примеров: *тогб~хās* 'котел'; *тёно~харāц* 'круг верхнего отверстия юрты'; *шёнө~сё* 'ночь'; *лā~шамр* 'свеча'; *хана~терм* 'стена' и т.д.

В речи хайяньских монголов известны некоторые заимствования в лексике из языков соседних с ними народностей—тибетцев и китайцев. Они

касаются быта, экономики и культуры монголов.

ИНСТИТУТ ВОСТОКОВЕДЕНИЯ АН СССР

# ABOUT THE PHONOLOGICAL TYPOLOGY OF BURUSHASKI

V. N. TOPOROV

In connection with the subject of this article it is important to remind of the fact, that Burushaski is the most *isolated* language in the centre of a region characterized by a very *high* measure of linguistic *diversity*. The main source of information concerning Burushaski is a well-known description of D.L.R. Lorimer, as well as the texts gathered by him and a glossary.<sup>1</sup> The works of the authors writing about Burushaski are usually based just upon this stuff. Unfortunately not all the data known about this language are described in a satisfactory way. The information that can be got from the texts is sometimes insufficient and needs rather often additional interpretation. Therefore the only thing for those, who have no possibility to undertake a field-investigation of Burushaski, remains to work out more or less general schemes, and to offer them to the judgement of others, who can prove their trust-worthiness in field-conditions. It is clear that the studies of that kind are inevitably connected with a certain risk. Nevertheless they seem to be necessary for the solution of such problems as the definition of the place occupied by Burushaski if not in the genealogical classification, then at least in the typological scheme.

In this article some observations will be made concerning the phonological system of Burushaski together with considerations about the place occupied by this language among the other languages of this region.

In D.L.R. Lorimer's book phonetics has been described not completely enough. There are cases when the author hesitates himself about the solution of a certain question. In other cases the reader will not find sufficient grounds in the reported phonetic data to make clear ideas about the phonological structure of Burushaski. Basing upon D.L.R. Lorimer's description, upon the texts collected by him and by Siddheswar Varma,<sup>2</sup> upon more ancient records (Biddulph, Leitner, "Linguistic Survey of India," Vol. VIII etc.) and upon his own observations, G. Morgenstierne has made the first effort to describe the *phonological* system of Burushaski.<sup>3</sup> With a relative certainty he managed to prove the phonemic nature of the following sounds:

<sup>1</sup> See D.L.R. Lorimer, *The Burushaski Language*, Vol. 1-3, Oslo, 1935-1938; cf. also И.И. Зап-убин, *Вершикское наречие канджутского языка*, Leningrad, 1927.

<sup>2</sup> See Siddheswar Varma, "Burushaski Texts"—*Indian Linguistics* I, V-VI, pp. 6-32.

<sup>3</sup> See G. Morgenstierne, "Notes on Burushaski Phonology"—*NTS*. XIII 1945, pp. 61-95.



CONSONANTS									
q	qh								
k	kh	g	ŋ	č	čh	ʃ		š	
t	th	ɖ		č̣	č̣h	ʃ̣		ṣ̌	
t	th	d	n	ɕ	ɕh	ʒ(=*j)	s		
p	ph	b	m						
r	l	ɣ		y	v	h			
VOWELS									
i		u		ĩ		ũ			
e	o			ẽ		õ			
a				ã					

These phonemes can be described in an economical way in terms of the distinctive features with the help of the following oppositions:

1. long / short, 2. aspirated / non-aspirated, 3. voiced / voiceless, 4. nasal / oral, 5. strident / mellow, 6. continuant / discontinuous, 7. cerebral / non-cerebral, 8. peripheral / medial, 9. compact / non-compact, 10. diffuse / non-diffuse, 11. consonantal / non-consonantal, 12. vocalic / non-vocalic.

The choice of these oppositions just in such an order is justified both by general considerations (see about them the other works of the author of these lines, and partly below) as well as by the fact, that there are descriptions of the languages of this region made in the same way. Therefore the phonological system of Burushaski can be compared with those of the neighbouring languages. The general scheme of the phonological tree of Burushaski is represented on the table 1.

This scheme of the phonological tree needs comments of two kinds.

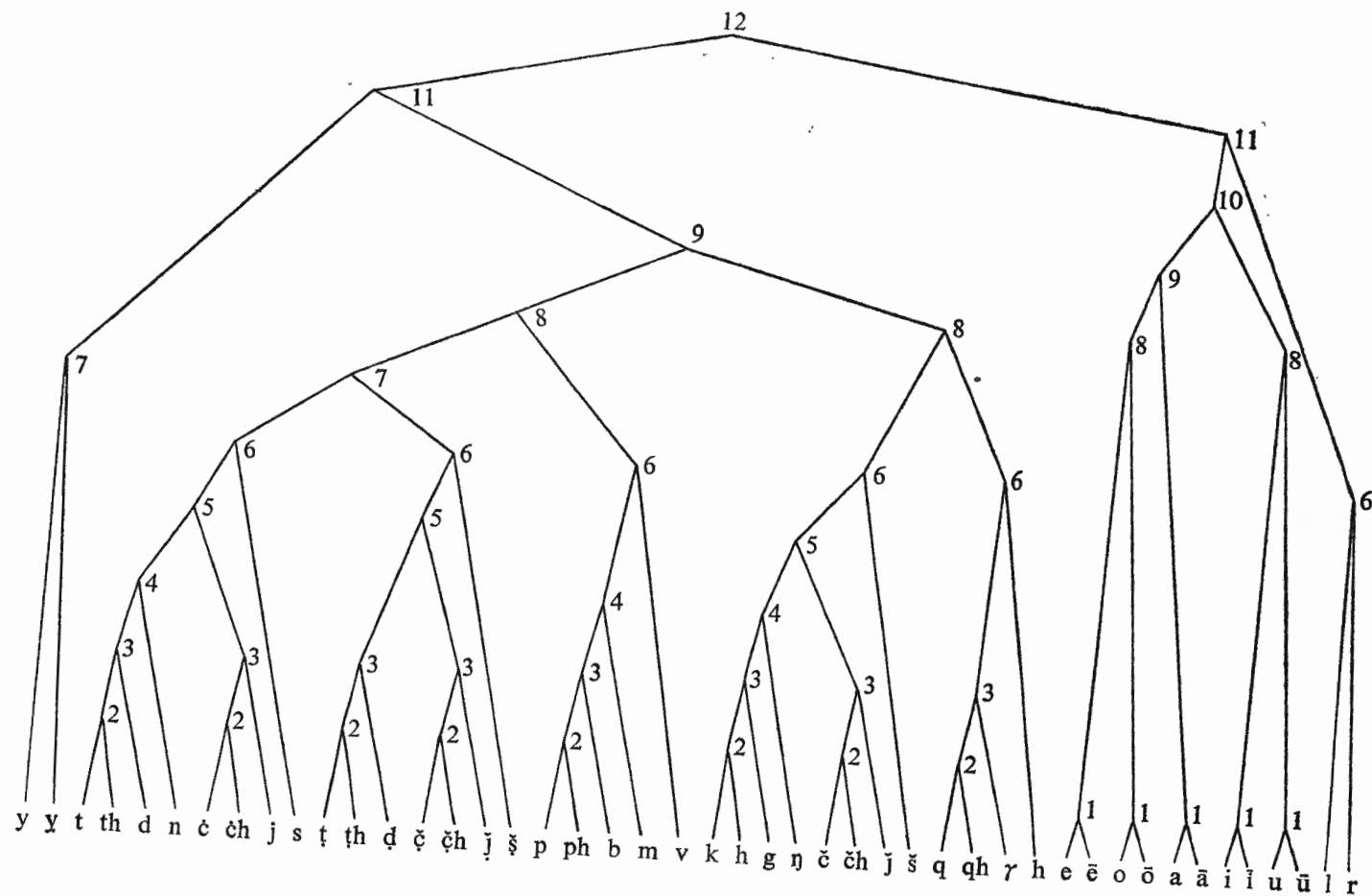
First, there exists uncertainty concerning the *phonemic inventory*, and it would be difficult or even impossible to try to solve it only with the help of the available published texts. It is the more difficult, because the data of D.L.R. Lorimer and those of G. Morgenstierne sometimes contradict to each other. Among the dubious statements that need comments the following ones should be pointed out.

1) It is the postulate of the phonemic status of *ɣ*, which is interpreted as a cerebral phoneme while *g*, *ɣ* and *q* (cf. respectively *g*, *ɣ* and *q*) are regarded as non-phonemes, their coming into existence being caused, as it is believed,<sup>4</sup> by the presence of *ɣ* (cf. *gɣa's* or *giɣa's* "infant," "baby"; *giɣal* or *gɣɣal* "thin bread made from watery dough" and so on); although some exceptions seem also to exist, as on the one hand: *gərey* or *rərey* "piebald, variegated in colour," *gayu* "the red-legged hill partridge," "chikor"; *ɣayvm* "left (hand)," *ɣayv* or *ɣayv* "lame," "cripple"; *qaiɣ* "pebbles beside water-course," i.e., "strand" and others<sup>5</sup>, and on the other hand: *giɣas* "to throw down,"

<sup>4</sup> See D.L.R. Lorimer, *Op. cit.* I, pp. 6-7; G. Morgenstierne, *Op. cit.*, p. 69.

<sup>5</sup> Cf. also the examples with *qh* and *ɣ* being met in the same word: *qhūye* (*qūe*) "pebble(s)",

Table 1. Burushaski. The scheme of the phonological tree.



"put down," "throw in," "pour into"; *giyas* "to go into," "enter into" and others. One should take into consideration D.L.R. Lorimer's notice about  $\gamma$ : "Its identification as a 'cerebral  $\gamma$ ' is tentative. From different people I recorded it variously as peculiar kinds of  $r$ ,  $l$ ,  $z$  and sometimes as a hiatus or 'hamza'" (p. 6), as well as the distribution of  $\gamma$  within a word:  $\gamma$  can occupy a position in the middle of a word and in the end of it (but in contradistinction to  $g$ ,  $r$  and  $q$   $\gamma$  is never met in the beginning of a word); at the same time  $\gamma$  is usually lost when followed in the middle of a word by a consonantal phoneme, as well as in the end of a word. If one takes into consideration, that  $\gamma$  is historically connected with  $q$ ,  $z$  through the  $r$  stage (cf. Burush. *bayum* "mare," Shina *ba'm* < \**vaḍam*: Skr. *vaḍabā*; Burush. *pa'yo* "wedge" < Skr. \**pātaka*- and so on,<sup>6</sup> cf. also the variation *-mu'ruyas*: *mu'ru/in/as* "to pollard"), and that there exists a correspondence of  $\gamma$  to  $\gamma$ : Burush.  $\gamma$  (while usually  $\gamma$  to  $\gamma$ : Burush.  $\gamma$ ), cf.  $\gamma$  to  $\gamma$ : Burush.  $\gamma$  (while usually  $\gamma$  to  $\gamma$ : Burush.  $\gamma$ ), cf.  $\gamma$  to  $\gamma$ : Burush.  $\gamma$  (while usually  $\gamma$  to  $\gamma$ : Burush.  $\gamma$ ), cf.  $\gamma$  to  $\gamma$ : Burush.  $\gamma$  (while usually  $\gamma$  to  $\gamma$ : Burush.  $\gamma$ ), an analogy with the Yenisei languages will suggest itself, where there are sounds like the Ket uvular  $Y$  (a voiced fricative), which can be in the middle and in the end of a word (cf. Yeloguj *siYum* "four," *hiY* "man" and the like) and are pronounced in a number of dialects like an uvular  $R$  or like the Sym medio-lingual  $y$  (cf. Sym *urayap* "drink" iv. with Imbak *ulodap*, or Sym *fayap* "a tail" with Imbak *hɔdap*, i.e. Sym  $y$ : Imbak  $d$ , cf. the correspondence  $\gamma$ :  $q$  in connection with Burushaski.<sup>8</sup> D.L.R. Lorimer in contradistinction to G. Morgenstierne suggests to classify  $\gamma$  not with the glide  $y$ ,<sup>9</sup> but with the sonant liquids  $r$  and  $l$ . In despite of it the effort to establish correspondence between  $\gamma$  and  $y$  as that between a cerebral and non-cerebral one seems to be justified, because it is based upon the cases of variation  $\gamma$ : $y$  (cf. *giyal*: *giyal* "ladle"),  $y$ :  $\#$  (cf. *ra/u/yum*: *ra'wum*: *gôm* "left/hand/") and upon the old records by Biddulph and Leitner. The fact that one deals here with two phonemes and not with two allophones is proved by the existence of a minimal pair *giyas* "infant," "baby": *giyas* 1. "to go into" etc.; 2. "to throw down" etc. (the difference between  $a$  and  $\alpha$  being non-phonological).

2) It seems to be reasonable to interpret  $j$  not as a voiced affricate, corresponding to a voiceless  $c$  but as a voiced counterpart of  $s$ , i.e. as  $z$ . In that case the corresponding fragment of the phonological tree would look in a following way:

The existence of such a tendency is proved by the frequent cases of variation  $j$ : $z$

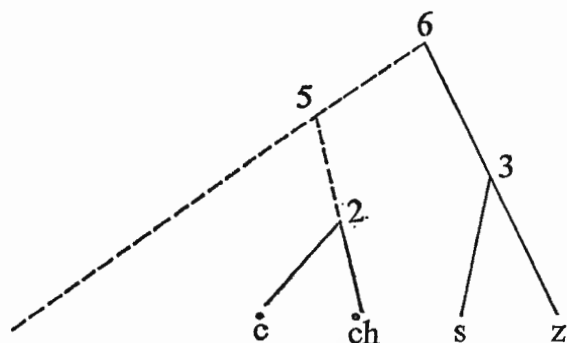
"shingle," "gravel," *qhūyskiš* (*qūekiš*, *khi-skiš*) "gravelly, shingly."

<sup>6</sup> See G. Morgenstierne, *Op. cit.*, p. 68.

<sup>7</sup> Cf. D.L.R. Lorimer's statement (*Op. cit.* I, pp. 410-411), that in Nagiri Burushaski  $\gamma$  is in correspondence with  $R$ , which is fluctuating between the French *r grassé* and  $\gamma$ . In Werchikwār  $\gamma$  is absent in general.

<sup>8</sup> See А.П. Дульзон, *Очерки по грамматике кетского языка*, Tomsk, 1964, pp. 47-48; Г.К. Вернер, *Звуковая система сымского диалекта кетского языка*, Tomsk, 1966, pp. 16-17.

<sup>9</sup> If  $y$  is interpreted as a variant of  $i$  (and  $w$  as that of  $u$ ), as it is done by G. Morgenstierne. *Op. cit.* pp. 67-68,  $i$ ,  $i$ ,  $u$ ,  $u$  should be removed from the right branch of the phonological tree, their opposition to the phonemes  $e$ ,  $\bar{e}$ ,  $o$ ,  $\bar{o}$ ,  $a$ ,  $\bar{a}$ , as diffuse vs. non-diffuse being thus liquidated, and linked with the consonantal and non-vocalic phonemes, as non-consonantal with consonantal ones.



and  $j:ž$  (see D.L.R. Lorimer. *Op. cit.* I, pp. 211 ff: Vocabulary).<sup>10</sup> Still it is impossible to take  $ž$  and  $ž$  for independent phonemes. It is interesting that a likewise asymmetry of relations between  $c, ch$  and  $z (=j)$ , on the one side, and  $č, čh$  and  $ž$ , on the other, can be traced also in Kashmiri;<sup>11</sup> the next stage of development is represented in Shina, where there exist on the one hand,  $c, ch, z$  and, on the other hand,  $č, čh, ž, ž$  and  $č, čh, ž, ž$ .<sup>12</sup> The transition of the voiced affricate into the fricative, while the voiceless affricates are preserved, is rather a common feature, and it can be convincingly explained.<sup>13</sup> In Burushaski  $z$  can occupy the initial as well as the intermediate or final position (cf. *zaq* "headache," *zər* "gold," *zo'r* "force," "violation," *zvrzvr*, *zvzvr* "slight feeling of chill from fever," *arza'n* "cheap," "plentiful," *mvza*,

<sup>10</sup> The same tendency is well known in the neighbouring Dardic languages. The fluctuating nature of the opposition  $j:ž$  is one of the characteristic features of the Dardic languages; cf. the change  $j > ž$  in Dameli and Torwali (see G. Morgenstierne, "Notes on Dameli"—*NTS* XII, 1942, p. 121; G.A. Grierson, *Torwali, An Account of a Dardic Language of the Swat Kohistan*, London, 1929, p. 10), the interchange between  $j$  and  $ž$  in Phalūra in spite of their independent phonemic existence (see G. Morgenstierne, "Notes on Phalūra, an Unknown Dardic Language of Chitral"—*Skrifter utgitt av Det Norske Videnskaps-Akademi, II, Hist.-filos. Klasse*, 1940, N 5, Oslo, 1941, p. 12), the possibility to interpret  $ž$  as an allophone of  $j$  in Waigali (see G. Morgenstierne, "The Waigali Language"—*NTS* XVII, 1945, p. 159), almost complete loss of  $j$  in Shumashti and the appearance of  $ž$  in its place (see G. Morgenstierne, "Notes on Shumashti, a Dardic Dialect of the Gawar-Bati Type"—*NTS* XIII, 1954, p. 247) and so on. Some Dardic languages, by the way, preserve a more stable opposition  $j:ž$  (cf. Shina, Gawar-Bati, Bashkarik, Prasun, Ashkun, Pashai). The stage of development of the opposition  $j:ž$  represented in Dardic languages makes a transition from the situation in Iranian languages of the neighbouring area, where this opposition is retained (Ishkashmi, Sanglechi, Shughni and Roshani, Wakhi, Yidgha, Parachi, Ormuri, Pashto etc.) and that of Indo-Aryan languages, where this opposition does not exist because of the absence of  $ž$ ; cf. by the way, *ḍumāki* with its variation  $j:ž$  (see D.L.R. Lorimer. *The ḍumāki Language*. Nijmegen, 1939, p. 23).

<sup>11</sup> See G. Morgenstierne, "The Phonology of Kashmiri,"—*Acta Orientalia*, Vol. 19, 1941, pp. 77 ff; *NTS*. XIII, 1945, p. 66;

<sup>12</sup> In a different way T.G. Bailey, *Grammar of the Shina (Šīnā) language*, London, 1924; *The Sounds of Šīnā—Studies in North Indian Languages*, London, 1938; D.L.R. Lorimer "The Sounds of Shina"—*BSOS* Vol. 3, 1928, p. 800.

<sup>13</sup> See N. van Wijk, "Quelques remarques sur les mi-occlusives devenant fricatives"—*Acta linguistica*, Vol. 2, N 1-2, 1940-1941.

*mu'za* "long boots," *mija'z* "temperament," "nature," *mi'z* "table," *arz* "representation," "statement," "petition" and so on;<sup>14</sup> cf. also pairs like *zvl* "searching": *jvl* "pus," *za'ra* "power," "strength": *ja'r* "to me," *zina* "fornication," "adultery," *ji'no* "living alive" etc.

3) Agreeing with G. Morgenstierne upon the fact that "*f* can hardly be considered to be a separate phoneme in Bur." (*Op. cit.*, p. 65), it is reasonable nevertheless to connect the final solution of this problem (only the peripheral fragment of the system is naturally meant here) with the statistic correlation of two opposite processes. The first one is the transition *ph* > *f* (through the *pf* stage) and the acceptance of new loan-words with *f* which does not undergo any substitution. The second one is the substitution of *f* and even of *p* through *ph* in foreign loan-words (cp. *farangi* > *phalaŋi* "syphilitic," *musa'fir* > *musa'phir* "traveller"; *phulis* "policeman" etc.). The situation is the more difficult, because there are such minimum pairs as *fa'l* "omen": *phal* "grain." The same seems to be the situation with *x* in those cases, when it is not a variant of *qh*, but forms a part of a loan-word. The difficulty is quite a different one, it consists in the contradictory information about *x*. G. Morgenstierne characterizes this sound as a "postvelar fricative," while D.L.R. Lorimer interprets *x* (and *ɣ*) as "voiceless (and voiced) spirant(s) corresponding to *k* (and *g*)." According to the viewpoint *x* and *ɣ* might be interpreted as continuant phonemes (voiceless and voiced) either of the postvelar or of the velar series. Unfortunately the information about *h* is rather vague (it is possible that it should be interpreted outside the class of the consonantal and non-vocalic phonemes).

4) It is not excluded that *ε'* and *ɔ'* should be counted in the vocalic phonemes; cf., for instance, *ε'i* "my son" (< \**a* + *i*): *e'i* "his daughter" (< \**i* + *ai*).<sup>15</sup> In that case *ε'*: *e'*, *ɔ'*: *o'* would be opposed as tense vs. lax.

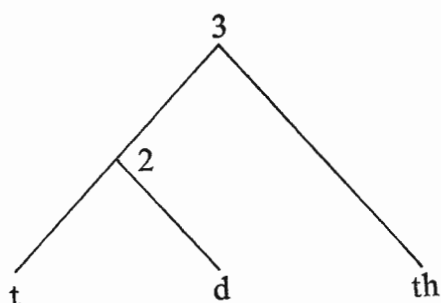
5) It is very interesting that in Burushaski the cases of fluctuation and confusion of phonemes and their classes are very frequent not only in loan-words, but in indigenous words as well. Beside the above mentioned cases one can find in the vocabulary many examples of confusion of aspirated and non-aspirated, cerebral and non-cerebral, post-velar and velar, *n* and *ŋ*, *l* and *r* etc. At the same time it is relevant for a number of phonemes that their distributive abilities are rather limited (cf., for instance, the prohibition to be in a final or even in an intermediate position for some of these phonemes as well as relevant differences between the noun and the verb in the structure of the phonemic inventory etc.).

Secondly, there are different possibilities to describe a given inventory of phonemes with the help of *distinctive features*. For instance, the *first* stage of differentiation should be that of voiced vs. voiceless, and only *afterwards* that of aspirated vs. non-

<sup>14</sup> A similar distribution exists in Werchikwār. See D.L.R. Lorimer, *Werchikwār-English Vocabulary*, Oslo, 1962.

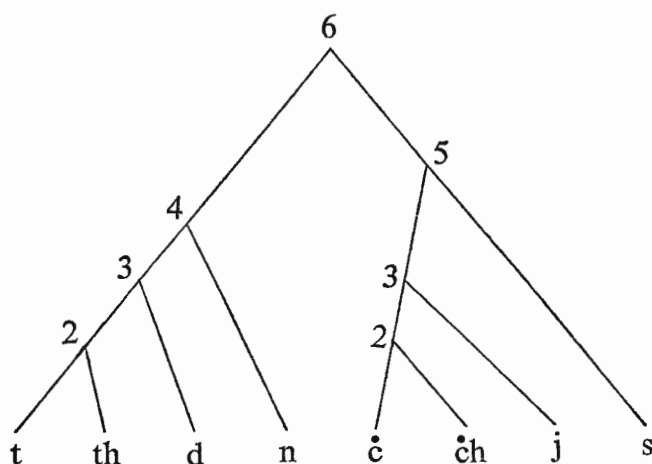
<sup>15</sup> See G. Morgenstierne, *Op. cit.* p. 85.

aspirated, i.e.:



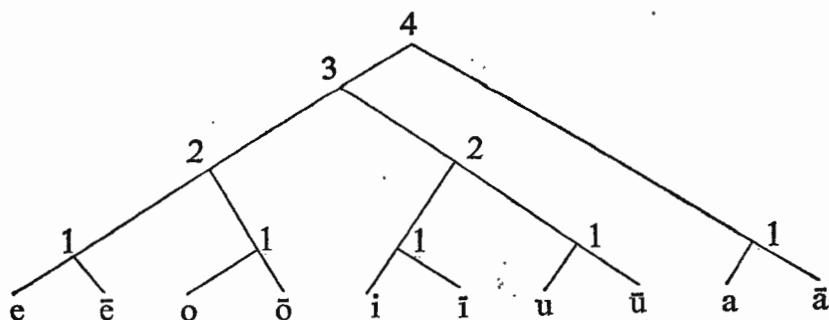
The reason for the preference of the above given description lies in the fact that in a number of cases the aspirates are stated inconsistently in the records, and they are sometimes confused with the corresponding non-aspirates. The cases of variations of the voiceless and voiced phonemes are of a special kind (See below about them).

The affricates should be combined first with the corresponding continuant phonemes, and only afterwards with the group of plosive consonants, i.e.:



where 5. means continuant vs. discontinuous, and 6. is tense vs. lax. This variant of description was not chosen, by the way, for the reason that the differentiation of the aspirate and non-aspirate consonants, which forms a particular cases of the opposition tense vs. lax, had been introduced already at the second step, that is much earlier.

The possibility of such a description, when *t*, *th*, *d*, *n*, *č*, *čh*, *j*, *s*, *t*, *th*, *d*, *č*, *čh*, *j*, *š* would be opposed to *p*, *ph*, *b*, *m*, *v* as grave vs. acute is not excluded. Among the vowels *e*, *ē*, and *o*, *ō*; *i*, *ī*, and *u*, *ū* might be differentiated in the same way. Then the fragment of the phonological tree, describing the vocalic and non-consonantal phonemes would look like that:



where 1. means long vs. short, 2. grave vs. acute (or peripheral vs. medial), 3. diffuse vs. non-diffuse, 4. compact vs. non-compact.

It was found possible to differentiate *k, kh, g, ŋ* from *č, čh, j* by means of the same distinctive feature, that serves to differentiate *t, th, d, n* from *č, čh, j*, or *ɬ, ɬh, ɖ* from *č, čh, j*, that is as strident vs. mellow. Another solution of the question is connected with the introduction of an additional distinctive feature (which would contradict to the principle, upon which the chosen approach is based).

There are some other variants of building the phonological tree connected with the set of the distinctive features and the order of their introduction, not to mention the general principles upon which the phonological tree is based. It is just these principles that strictly speaking determine the structure of the scheme making possible to compare it with likewise descriptions of a number of other languages of the neighbouring areas.<sup>16</sup>

Like many other languages of this extremely multilingual region Burushaski belongs to a linguistic unity which might be called the "Central Asiatic linguistic area" (Sprachbund). Its geographic frontiers as well as the languages pertaining to it were discussed on general lines in another article. It is rather important that in the linguistic respect the "Central Asiatic linguistic area" separates clearly two vast areas—the Eurasian and the South-East-Asian one, being opposed to both of them. Some comments to the described above phonological system of Burushaski might be instructive in the light of the Central Asiatic Area linguistics. Only the consonantal phonemes will be meant here, more precisely the class of consonantal and non-vocalic phonemes (the glides and the sonant liquids being consequently excluded), further designated as class C.

This class numbers in Burushaski 32 phonemes, that is as much as in other languages occupying a comparatively narrow region stretched from the North-West towards the

<sup>16</sup> An account of these principles and of the descriptions based upon them is given in: В.Н. Топоров, "Предварительные материалы к описанию фонологических систем консонантизма дардских языков"—*Лингвистические исследования по общей типологии*, 1966, pp. 172–192; "Фонологическая интерпретация консонантизма кашмири,"—*Восточные языки*, Moscow, 1967, pp. 184–203. "Несколько замечаний к фонологической характеристике центральноазиатского языкового союза"—*Symbolae grammaticae in honorem Georgii Kurylowiczi*, Kraków-Warszawa-Wrocław, 1965, pp. 322–330.

South-East, cf. Yazghulami—35,<sup>17</sup> Yidgha—31,<sup>18</sup> Wakhi—30,<sup>19</sup> Shina—33,<sup>20</sup> Balti—35<sup>21</sup> etc. Out of the languages situated on the continuation of this region to the North-West only Yaghnobi possesses 35 phonemes of the class C; this region is extended in the South-East by the Tibetan dialects which usually possess more than 30 phonemes of this class. Out of the other languages belonging to this region one should mention Ishkashmi-Sanglechi (26 phonemes), the Shughni-Roshani dialects and the Sarikoli language (25 phonemes). The bulk of the Dardic languages begins to the South and South-West from this region. There the number of the phonemes of the class C as a rule is less than 30; cf. Phalūra—29, Dameli—28, Bashkarik—26, Ashkun, Waigali and Shumashti—23, Prasun—21 and so on.<sup>22</sup> The exceptions are rare: beside Shina (33) cf. also Gawar-Bati—31 and Pashai—34;<sup>23</sup> as for Kashmiri the number of its consonantal phonemes changes greatly according to the interpretation of the *mātrā* vowels.<sup>24</sup> Farther to the South-West in the region of the West-Iranian languages (Pashto, Persian, Parachi,Ormuri, Balochi) the number of the phonemes of the class C does not exceed 30. The increase of this number begins only in Sindhi, where there are 36 phonemes of this class. The rest of the Indo-Aryan languages are characterized by the situation, when the number of phonemes does not exceed 30, and it decreases evidently in the directions to the East and South-East, cf. Marathi—30, Gujarati and Hindi—29, Nepali—28, Oriya and Bengali—25, Assamese—19, Sinhalese—15.<sup>25</sup> The same tendency is manifested even more clearly in some Non-Indo-Aryan languages; there such cases are not rare, when the 20 (cf. Tamil, Boro, Khasi, Mon<sup>26</sup> etc.). Nevertheless there are also exceptions, cf. Nahali, where there seem to be 40 phonemes of

<sup>17</sup> Cf. Д.И. Эдельман, *Язгулямский язык*, Moscow, 1966, p. 14 ff. (including as separate phonemes the clicking affricated plosive ɕ and the pharyngeal h); cf. also B.C. Соколова, *Очерки по фонетике иранских языков*, II, Moscow-Leningrad, 1953, pp. 193–195.

<sup>18</sup> Cf. G. Morgenstierne, *Indo-Iranian Frontier Languages*. Vol. II, Oslo, 1938, p. 28 ff. (one should keep in mind that ɾ, ɖ, ɗ, ɟ, ɳ are met only in Yidgha, while ɳ' exists only in Munji; x, ɣ and ɳ are variants and not independent phonemes).

<sup>19</sup> Cf. G. Morgenstierne, *Op. cit.* Vol. II, p. 443 ff. (such unfrequent phonemes as j, θ are also included here). The system of consonantal phonemes, which can be restored with a certain probability on the basis of the description of Wakhi by D.L.R. Lorimer, would possibly differ only in details. See D.L.R. Lorimer, *The Wakhi Language*, Vol. 1, London, 1958, p. 12 ff.

<sup>20</sup> See the above mentioned works by T.G. Bailey and also B.H. Топоров, *Предварительные материалы*, pp. 182–183.

<sup>21</sup> This Tibetan dialect situated in Baltistan, in the extreme West of the Tibetan plateau, was described in the book by A.F.C. Read, *Balti Grammar*, London, 1934. Unfortunately, the phonetic description is reduced to a minimum in this book.

<sup>22</sup> See B.H. Топоров, *Предварительные материалы*.

<sup>23</sup> See G. Morgenstierne, *The Pashai Language*, Vol. 1, Oslo, 1961.

<sup>24</sup> See B.H. Топоров, "Фонологическая интерпретация консонантизма в кашмири" and especially Б.А. Захарьин, Кашмири: фонетика и фонология, текст и система,—"Народы Азии и Африки," 1968, N 3; Фонологическая структура языка кашмири, Москва, 1968 (автореферат диссертации).

<sup>25</sup> See T. Y. Elizarenkova, "Concerning the Phonological Typology of Some New-Indo-Aryan Languages"—*XXVI International Congress of Orientalists*, Moscow, 1963.

<sup>26</sup> See H.-J. Pinnow, *Versuch einer historischen Lautlehre der Kharia-Sprache*, Wiesbaden, 1959 pp. 51–52; P. Ch. Bhattacharya,—"Indian Linguistics," Vol. 17, 1957; L. Rabel, *Khasi, a Language of Assam*, Louisiana University Press, 1961, p. 2, ff., etc.



the class C.<sup>27</sup>

The existence of the opposition aspirated vs. non-aspirated seems to be a feature characteristic of a number of languages belonging to the "Central-Asiatic linguistic area." Burushaski also partakes of this feature, 8 pairs of phonemes being differentiated by means of it in this language. In the most part of the Dardic languages this feature is a relevant one—in Dameli and Shina for 7 pairs of phonemes, in Bashkarik, Gawar-Bati and Kashmiri (in its minimum variant of description) for 6 pairs,<sup>28</sup> in Shumashti for 4 pairs. If there exist also voiced aspirates in Gawar-Bati, the distinctive feature of aspiration serves to differentiate in this language members of 10 pairs of phonemes<sup>29</sup> (and of 7 pairs in Phalūra, if in general aspirated phonemes exist there—G. Morgenstierne avoids to express his opinion clearly about it). Only the Dardic languages of the South-West outlying districts have completely lost this opposition (it is absent in Ashkun, Prasun and Waigali). One should notice that out of the Iranian languages occupying the area adjacent to that of the Dardic languages this opposition seems to be relevant only in Parachi (cf. *k*: *kh*, *g*: *gh*, *č*: *čh*, *ʃ*: *ʃh*, *t*: *th*, *d*: *dh*, *p*: *ph*, *b*: *bh*).<sup>30</sup> But it is widely spread all over the Indo-Aryan area (except in Sinhalese): in Bengali, Oriya, Nepali, Hindi, Marathi and Sindhi it serves to differentiate the phonemes of 10 pairs. At the same time one should bear in mind that phonemes outside the class C can also be distinguished by means of this feature, cf. *l*: *lh*, *ɾ*: *ɾh*, and also such unusual for the class C pairs as *n*: *nh*, *ɳ*: *ɳh*, *m*: *mh*. A similar situation can be found in Kannada, Telugu, Malayalam; Kharia, Mundari, Santali, Kurku, Nahali, etc. The aspirated vs. non-aspirated variant of this opposition disappears farther to the South-East: it is missing already in Tamil, Sora, Mon, Khmer.<sup>31</sup> But the same opposition aspirated vs. non-aspirated is well known in the Tibetan dialects covering a broad region to the East from the Burushaski area.<sup>32</sup> The opposition tense vs. lax in those languages where the opposition voiced vs. voiceless is distorted is of another kind, cf., for instance, the Ishkashmi language where for a number of reasons the opposition of voiced sounds to the voiceless ones might be interpreted as that of lax vs. tense (i.e., *d*: *t* > *t*: *th*);<sup>33</sup> the

<sup>27</sup> See H.-J. Pinnow, *Op. cit.*, p. 45 ff. also F. B. J. Kuiper, *Nahali, A Comparative Study*, Amsterdam, 1962. Cf. also H. Sh. Biligiri, *Kharia, Phonology, Grammar and Vocabulary*, Poona, 1965, p. 1 ff.

<sup>28</sup> Cf. the maximum variant of Kashmiri—*k*: *kh*, *k'*: *kh'*, *č*: *čh*, *č'*: *čh'*, *ʃ*: *ʃh*, *ʃ'*: *ʃh'*, *t*: *th*, *t'*: *th'*, *d*: *dh*, *c*: *ch*, *c'*: *ch'*, *p*: *ph*, *p'*: *ph'*.

<sup>29</sup> The pairs *t*: *th*, *d*: *dh*, *c*: *ch*, *p*: *ph*, *b*: *bh*, *ʃ*: *ʃh*, *ɟ*: *ɟh*, *k*: *kh*, *g*: *gh*, *č*: *čh* are meant here. See G. Morgenstierne, "Notes on Gawar-Bati"—*Skifter utgitt av det Norsk Videnskaps-Akademi i Oslo, II. Hist.—Filos. Klasse*, 1950, N 1, pp. 7–8.

<sup>30</sup> See G. Morgenstierne, *Indo-Iranian Frontier Languages*, Vol. I.

<sup>31</sup> In a number of cases *th* and the rest are treated in a poliphonemic way, as, for instance, in Stieng, Chrau, Sre, etc. See H.-J. Pinnow, *Op. cit.*, pp. 60–61.

<sup>32</sup> See A.F.C. Read, *Op. cit.*; G. de Roerich, *Tibetica, I, Dialects of Tibet, The Tibetan Dialect of Lahul*, Calcutta, 1933; *Le parler de l'Amdo*, Roma, 1958; R.A. Miller, "Studies in Spoken Tibetan, I"—*JAOS* Vol. 75, 1955, p. 46 ff.; E. Richter, *Grundlagen der Phonetik des Lhasa-Dialektes*, Berlin, 1964 etc.

<sup>33</sup> See Т.Н. Пахалина, *Ишкашимский язык*, Moscow, 1959, p. 31. ff.

more applicable it is to the Mongolian and Turkish dialects of China (cf. Dagur, Monguor/the language of the White Mongols in Western Kansu/, Salar, the language of the Yellow Uigur and the other Mongolian languages of China).<sup>34</sup> It is clear from the above said that Burushaski occupies the extreme position in the North among the languages of the "Central Asiatic linguistic area" in respect of the distinctive feature of aspiration.

As to the opposition voiced vs. voiceless Burushaski belongs to that group of the languages of this region, where there begins inconsistency in this opposition. The Ishkashmi language was mentioned above, where according to the distribution of voiced and voiceless allophones, as well as to some experimental data,  $k : g$ ,  $\check{c} : j$ ,  $t : d$ ,  $c : j$ ,  $p : b$ ,  $x : \gamma$ ,  $\check{s} : \check{z}$ ,  $\check{s} : z$ ,  $s : z$ ,  $f : v$  should be distinguished not as voiceless and voiced but as tense and lax. It is characteristic that even in the neighbouring Dardic languages separate cases of lenition of the intervocalic plosives can be found,<sup>35</sup> though all the Dardic Languages partake of the opposition voiced vs. voiceless. Farther to the East the distinctive power of the opposition diminishes up to the complete loss of this distinctive feature. Closely related to the problem of voiced/voiceless consonants in Burushaski is the process which causes the transition of the initial voiced consonants into voiceless ones when they are found in the middle of a word, cf.  $g > k$  ( $g > k$ ),  $\gamma > q$ ,  $j > \check{c}$ ,  $d > t$ ,  $b > p$ ; cf., for instance, *girminas* "to write," *akirmun* "don't write," *di'mi* "he came": *ati'mi* "he didn't come," *be $\lambda$ as* "to put on": *apel* "don't put on," *γ $\acute{e}$ risas* "to agree": *aq $\acute{e}$ r $\acute{c}$ i* "he will not speak," *ju $\gamma$ as* "to come": *a $\acute{c}$ u $\acute{c}$ a.i* "he isn't coming" etc.<sup>36</sup> This peculiarity seems to be connected with the fact that in loan-words from Dardic (first of all from Shina and Khowar) Burushaski voiced consonants correspond to the initial voiceless consonants of these languages (cf. the list of words: D.L.R. Lorimer. *Op. cit.* Vol. I, p. 10). G. Morgenstierne has drawn attention to the fact that initial voiced consonants prevail in the Burushaski verbal roots while initial non-aspirated voiceless consonants are very rare there.<sup>37</sup> This gives grounds to suppose that "Burushaski at a certain stage of development knew only an opposition media/aspirated tenuis (or perhaps better: unaspirated/aspirated) in the initial of

<sup>34</sup> Cf., for instance, Б.Х. Тодаева, *Монгольские языки и диалекты Кумая*, Moscow, 1960; A. Smedt et A. Mostaert, *Le dialecte monguor parlé par les mongols du Kansu occidental*, II, Peking, 1945. Э.Р. Тенишев, *Саларский язык*, Москва, 1963; Э.Р. Тенишев, Б.Х. Тодаева, *Язык желтых уйгуров*, Москва, 1966; Kaare Thomsen, "Die Sprache der Gelben Uiguren und der Salarische"—*Philologiae Turcicae Fundamenta*, Wiesbaden, 1959 etc.

<sup>35</sup> See for instance, G.A. Grierson, *Torwali. An Account of a Dardic Language of the Swat Kohistan*, London, 1929, p. 10 ff.; G. Morgenstierne, *Notes on Shumashti*, p. 247; G. Buddruss, *Beiträge zur Kenntnis der Pašai-Dialekte*, Wiesbaden, 1959, p. 5 (about the Kandaki dialect); Д.И. Эдельман, *Дардские языки*, Moscow, 1965, p. 24. Similar facts are found, as it is known, in Culika—Paiśaci Prakrit. See В.В. Вертоградова, *Структурная типология среднеиндийских фонологических систем*, Moscow, 1967, p. 30. ff.

<sup>36</sup> See D.L.R. Lorimer, *Op. cit.*, pp. 10–11; conditions under which these changes operate are enumerated on the pp. 205–206, 294 and 307–308.

<sup>37</sup> See G. Morgenstierne, *Op. cit.*, p. 75.

-verbal roots" (p. 75). It is rather interesting that in the initial of nouns consonantal phonemes of all the three series are admissible, though the voiced consonants prevail over the voiceless ones. A situation similar to it in many respects is found in the Ket language. This similarity is manifested in the irregular character of the distribution of the distinctive feature voiced vs. voiceless in different positions within a word (cf. the admissibility of a number of voiced consonants only intervocalically in the middle of a word, e.g. *g*, *R*, while *k*, *q* can be both initial and final; or the final voiceless consonants becoming voiced when followed by a vowel, for instance, *boat* "an old man": *boadaś* "with the old man," *qip* "a bear": *qibaś* "with a bear" etc.); in the difference between the noun and the verb manifested in the phonemic inventory used in each of these classes (the verb being that very class where certain limitations and prohibitions of the occurrence of these or those phonemes);<sup>38</sup> in the possibility of the reconstruction of such a state when it is more reasonable to speak not about the opposition voiced vs. voiceless but about the opposition of lax consonants to the tense ones etc.<sup>39</sup> The opposition of voice is relevant in Burushaski for 24 phonemes (that is for 3/4 of all the phonemes of the class C). The indices most close to it can be found in Shina (26), in the maximum variant of Kashmiri (24) and in Bashkarik (19); cf. further Gawar-Bati and Phalūra (18 in each), Kashmiri (the minimum variant) (17), Dameli, Prasun and Ashkun (16 in each), Shumashti (15), Waigali (14). If one takes into consideration some disputable cases too, the given data should be changed: Gawar-Bati and Phalūra (25 in each), Dameli (21), Ashkun, Prasun, Waigali (18 in each). Be as it is Burushaski and the Eastern Dardic languages are characterized by a greater number of phonemes identified with the help of this distinctive feature than the Western Dardic languages. In the Indo-Aryan languages covering the territory to the South from the "Central Asiatic linguistic area" the number of voiced and voiceless phonemes becomes less: Hindi—22, Gujarati and Marathi—21, Sindhi, Nepali, Oriya and Bengali—20, Panjabi—12, Assamese—12, Sinhalese—10.<sup>40</sup> But in Iranian languages covering the territory to the North from the Dardic region, especially in the vicinity of Burushaski, the number of phonemes identified as voiced vs. voiceless is close to that of Burushaski; cf. Wakhi—26,<sup>41</sup> Yazghulami—28, Shughni-Roshani, Sarikoli, Yidgha, Ishkashmi—Sanglechi—22<sup>42</sup> etc. In the languages situated to the

<sup>38</sup> For details see Д.М. Сегал, "Фонология кетского языка (пакулихинский говор)" — *Кетский сборник*, Moscow, 1968. One should add to it deep structural similarity between the verb in Ket and Burushaski, cf. the use of pronominal elements in the function of verbal prefixes [in case of an intransitive verb being connected with the subject, and in case of a transitive verb with the object of the verb; cf. by the way formal and functional similarity between pronominal elements used in the verb in Ket (*d*) and Burushaski (*d-*)].

<sup>39</sup> Cf. the fluctuation between the voiced and the voiceless consonants in the formations from the same root compared in different Yenisei languages. See В.Н. Топоров, "Материалы к сравнительно-исторической фонетике енисейских языков, I". — *Кетский сборник*, 1968.

<sup>40</sup> See Т.У. Elizarenkova, *Op. cit.*

<sup>41</sup> In D.L.R. Lorimer's variant there seem to be 28.

<sup>42</sup> In G. Morgenstierne's variant they are 20.

South-East from this region the corresponding indices become evidently less (if not to count Parachi—26).<sup>43</sup> Taking into consideration that Tibetan dialects which usually possess no less than 30 phonemes differentiated as voiced vs. voiceless, one can see that Burushaski is situated in the centre of a region characterized by a large number of voiced and voiceless phonemes (Tibetan, Burushaski, Shina, Kashmiri, Wakhi, Shughni, Sarikoli, Yazghulami, Ishkashmi, Sanglechi, Yidgha).

There are 7 phonemes with the positive meaning of the distinctive feature of cerebrality in class C of Burushaski (cf. also  $\gamma$  outside of this class):  $t$ ,  $th$ ,  $d$ ,  $\check{c}$ ,  $\check{c}h$ ,  $\check{j}$ ,  $\check{s}$ . The cerebral phonemes are missing in Chinese dialects to the East of Burushaski as well as in the Eastern Iranian languages (Shughni-Roshani, Sarikoli).<sup>44</sup> But they are found in all the Dardic languages, the number of the cerebral phonemes increasing in the direction from the West to the East, cf. Ashkun and Prasun—4 in each, Waigali, Dameli, Phalūra—6, Gawar-Bati, Bashkarik, Shumashti—7, Shina—9, Kashmiri (in its maximum variant)—12.<sup>45</sup> Out of the Iranian languages of this district one should pay attention to the existence of cerebral phonemes in Wakhi—4 or 5 (it depends on the interpretation of  $d$ ;  $l$  being not taken into consideration), in Yidgha—6 (not counting  $r$ ; in Munji being only one cerebral  $\check{s}$ ), in Ishkashmi—5, in Sanglechi—4. The absence of the cerebrals in the Shughni-Roshani dialects and in Yazghulami is significant as well as their presence in Hazara,<sup>46</sup> Parachi, Ormuri, Persian, Pashto, Balochi, i.e. near the Indo-Iranian linguistic frontier.<sup>47</sup> For the linguistic geography of the distribution of the cerebrals it is important to mention that these sounds exist in Khotanese Saka, and they seem to exist in Bactrian. At the same time one should not forget that there had been decerebralization in a number of dialects of this region, and this caused a great change into the whole situation, cf. for instance, the Shughni-Roshani dialects.<sup>48</sup> The process of decerebralization is quite evident in a number of modern languages of this region too (both Iranian and Dardic). The cerebrals are always present in the Indo-Aryan languages to begin with Dūmāki, to the South and South-East from the Central Asiatic linguistic area (Assamese where there are no cerebrals

<sup>43</sup> One should remember by the way that the Iranian languages differ greatly from Burushaski in the abundance of continuant phonemes, cf. for instance, the neighbouring Wakhi:  $f:v$ ,  $\vartheta:\delta$ ,  $\check{x}:\check{r}$ ,  $x:r$ ,  $s:z$ ,  $\check{s}:\check{z}$ ,  $\check{s}:\check{z}$  or Yazghulami:  $f:v$ ,  $\theta:\delta$ ,  $\check{x}:\check{r}$ ,  $x:r$ ,  $x^\circ:r^\circ$ ,  $s:z$ ,  $\check{s}:\check{z}$  (in Burushaski the continuant phonemes are not at all differentiated as voiced vs. voiceless, if not to count the possibility of an opposition  $s:z=j$ , about which see above).

<sup>44</sup> Nevertheless they exist in Tibetan.

<sup>45</sup> If the disputable cases are also counted in, these data will change a little: Ashkun—6, Prasun—5, Dameli and Phalūra—8.

<sup>46</sup> See В.А. Ефимов, *Язык афганских хазара*, Moscow, 1965, pp. 13–14.

<sup>47</sup> For details see Д.И. Эдельман, "Проблема церебральных в восточно-иранских языках"—*Вопросы языкознания*, 1963, No. 5, pp. 67–81.

<sup>48</sup> See G. Morgenstierne, "Notes on Shughni"—*NTS*, 1, 1928, p. 41; Р.Х. Додыхудоев, "Отражение древнеиранской группы—*rt*—в шугнанском языке"—*Научная конференция по иранской филологии (Тезисы)*, Leningrad, 1962, pp. 10–11; *Историческая фонетика шугнанского языка (консонантизм)*, Автореферат диссертации, Leningrad, 1963.

makes an exception). There are usually 4 cerebrals (in the class C) in these languages; Sinhalese (2 cerebrals) and Sindhi (5 cerebrals) should be mentioned as deviations. The cerebral phonemes are also characteristic of the other languages of Hindustan (Munda, Nahali, a number of Dravidian languages).<sup>49</sup> Thus the existence of cerebrals in Burushaski should be taken for an important diagnostic feature characteristic of this linguistic area.

One more diagnostically important feature of the phonological system of Burushaski is the existence of the postvelar and uvular phonemes *q*, *qh*, *ɣ*. This feature distinguishes Burushaski from the Indo-Aryan and Dardic languages, where the corresponding phonemes do not exist (the exceptions are minimum ones, and belong to the loan-words, cf. *q* in Dameli or in the language of Woṭapūr and Kaṭārqaḷā<sup>50</sup> etc.) and brings Burushaski together with the neighbouring Balti<sup>51</sup> and with a number of Iranian languages of this region, cf. *q*, *x*, *ɣ* in Wakhi, Yidgha, Munji, Ishkashmi (and Sanglechi), Sarikoli, Hazara, Badakhshani etc. *Q*, *x*, *ɣ* exist in Shughni-Roshani dialects too, but according to G. Morgenstierne they are found only in loan-words. In some Iranian languages the corresponding series of phonemes undergo further development, cf. Yazgh. *q*:*q*<sup>o</sup>, *x*:*x*<sup>o</sup>, *ɣ*:*ɣ*<sup>o</sup>. It is true that in some of these languages, like in Burushaski, the phonemes of this series are unstable; cf. in Burushaski *q*>*k*, *qh*>*x*, *ɣ*>*g*<sup>52</sup> or in Hazara: *q*>*ɣ* and *ɣ*>*q* (in the middle and in the end of a word), *q*>*x*, *x*>*q*, *x*>*ɣ*, *ɣ*>*g*.<sup>53</sup> At the same time it should be stressed that in Burushaski *q* is opposed to *qh* as a non-aspirated to an aspirated phoneme; *q* and *qh* are opposed to *ɣ* as voiceless to voiced, while *x* and *ɣ* are opposed to *q* as continuant to discontinuous. Taking into consideration the above mentioned changes of the postvelars in Burushaski, one can see in this class a tendency to the elimination of plosives (out of the postvelar phonemes only the continuant *x* is preserved).

Of the other features characteristic of Burushaski against the background of the neighbouring languages the small number of the continuant phonemes should be noticed (*ʒ*, *ʃ*, *ǯ*, *h*—4), while in Kashmiri (the maximum variant) they are 16: *s*, *s'*, *s''*, *s'''*; *z*, *z'*, *z''*, *z'''*; *ʃ*, *ʃ'*, *ʃ''*, *ʃ'''*; *v*, *v'*, *v''*, *v'''*; in Shina—8: *s*, *z*, *ʒ*, *ʃ*, *ǯ*, *f*, *v*; in Prasun—6, in the rest of the languages—5 (except in the minimum variant of Kashmiri, where they are 4). Among the Iranian languages Yazghulami possesses the largest number of continuant phonemes—15 (*s*, *z*; *ʃ*, *ǯ*; *f*, *v*; *ʈ*, *ḍ*; *x*, *ɣ*; *ʃ̌*, *ʃ̌'*; *x''*, *ɣ''*; *ʃ̌''*),<sup>54</sup> Wakhi—14 (*s*, *z*; *ʃ*, *ǯ*; *ʃ̌*, *ǯ̌*; *f*, *v*; *ʈ*, *ḍ*; *x*, *ɣ*; *ʃ̌*, *ʃ̌''*),<sup>55</sup> Shughni—12 (*s*, *z*; *ʃ*, *ǯ*; *f*, *v*; *ʈ*, *ḍ*; *x*, *ɣ*; *ʃ̌*, *ʃ̌'*), Sarikoli—12 (*s*, *z*; *ʃ*, *ǯ*; *f*, *v*; *ʈ*, *ḍ*; *x*, *ɣ*; *ʃ̌*, *ʃ̌'*), Yidgha—11 (*s*, *z*; *ʃ*, *ǯ*; *ʃ̌*, *ǯ̌*; *f*, *v*; *x*, *ɣ*;

<sup>49</sup> Cf. the absence of cerebrals in the Mon-Khmer languages.

<sup>50</sup> Cf. G. Buddruss, *Die Sprache von Woṭapūr und Kaṭārqaḷā*, Bonn, 1960, p. 18.

<sup>51</sup> Cf. also T.G. Bailey, *Linguistic Studies from the Himalayas*, London, 1915.

<sup>52</sup> See D.L.R. Lorimer, *op. cit.*; G. Morgenstierne, *NTS*, XIII, 1945, pp. 62, 65–66.

<sup>53</sup> See B.A. Ефимов, *op. cit.*, p. 15.

<sup>54</sup> *H* is a separate problem.

<sup>55</sup> Cf. also *h* and *φ* (in the description of D.L.R. Lorimer).

$\check{x}$ ; cf. also  $h$ ), Ishkashmi—10 ( $s, z; \check{s}, \check{z}; \check{f}, v; x, r; \check{x}$  cf.  $h$ ) etc; in any case, this inventory is much richer than in Burushaski. Tibetan dialects have also as a rule more continuant phonemes than Burushaski.

It is important to stress that among the distinctive features relevant for the description of the phonological systems of the neighbouring languages the oppositions palatal vs. non-palatal and labial vs. non-labial are missing in Burushaski. The first of these features seems to be relevant in Kashmiri (cf. the palatalizing effect of the *i-mātrā*: *guur* "shepherds"—*guur* "a shepherd"—*guuri* Abl. sg. of *guur*), Yazghulami ( $k:k', g:g'$ )<sup>56</sup>, Yidgha and Munji ( $k:k', g:g'$ )<sup>57</sup> as well as in Tibetan (cf. *ja/*=*ča/*"tea" with *bya/*=*č'a/*"bird" etc.) One can find in Burushaski only a few cases, when the appearance of  $\check{n}$  (=  $n$ ) is conditioned, cf. *Qhañjar*, nom. propr., *gañi* "axe" etc. or when  $n$  (final?) has got a slight palatalized tinge.<sup>58</sup> The second of these features (i.e. labial vs. non-labial) is absent not only in Burushaski, but in Dardic (cf. nevertheless in the maximum variant of Kashmiri the opposition  $t:t^\circ$  etc.), Indo-Aryan, Tibetan etc. either. In contradistinction to it this opposition is relevant in Yazghulami ( $k:k^\circ, g:g^\circ, q:q^\circ, x:x^\circ, r:r^\circ, \check{x}:\check{x}^\circ$ ), cf.  $x:x^\circ$  in Yagnobi.

Thus the existence of the aspirated, cerebral and postvelar phonemes (it can also be formulated in terms of the distinctive features) are the most diagnostic features characteristic of the languages, belonging to the Central Asiatic linguistic area.<sup>59</sup> According to the presence (or absence) of these phonemes (or features) the corresponding languages of this region occupy the following positions in the general scheme:

Languages Phonemes	Burushaski	Dardic	Iranian	Indo-Aryan	Tibetan
aspirated	+	+	— <sup>60</sup>	+	+
cerebral	+	+	+	+	+
postvelar	+	—	+	—	(+) <sup>61</sup>

This scheme shows in a rather convincing way that the phonological scheme of

<sup>56</sup> The arguments of V.S. Sokolova (*Очерки по фонетике иранских языков*, II, Moscow-Leningrad, 1953, p. 194) for the independence of the phonemes  $k'$ ,  $g'$  seem to be quite convincing. Cf. also Д.И. Эдельман, *op. cit.*, p. 15 (the situation being less clear). Cf. also a tendency of phonologization of  $k'$ , and  $g'$ , in Khuf and Bajuy dialects of the Shughni-Roshani language, see B. C. Соколова, *op. cit.* II, pp. 136-137.

<sup>57</sup> See G. Morgenstierne, *Indo-Iranian Fortier Languages*, Vol. II, pp. 28-29, 36.

<sup>58</sup> See G. Morgenstierne—*NTS* XIII, 1945, p. 67.

<sup>59</sup> The opposition voiced vs. voiceless being relevant for all the languages of this region, this feature can be diagnostic only outside the Central-Asiatic area.

<sup>60</sup> Parachi makes an exception.

<sup>61</sup> Cf. Balti; see A.F.C. Read, *op. cit.* etc.

Burushaski is built in many respects like a set-theoretic union of the main parameters of the other languages of this region. It is natural that in this region Burushaski occupies a central position from the view-point of the existence of the common phonological features. It cannot be a chance that just the phonological systems of the neighbouring languages (irrespective of their origin) are the closest to that of Burushaski—i.e. Wakhi and Shughni of the Iranian group, Shina and Bashkarik of the Dardic one, Balti of the Tibetan one. This comparatively limited region can be regarded as a local centre of irradiation, which is conditioning more or less the phonological situation of all the adjacent territories.

INSTITUTE OF SLAVISTICS, MOSCOW, U. S. S. R.

# POSITION AND SYNTACTIC FUNCTION OF THE PARTICLE *TA* IN OLD JAVANESE

E. M. UHLENBECK

## I

In Old Javanese three different elements *ta* have to be distinguished: 1. the alternant *ta-* of the prefix morpheme *ta-/t-* used for the formation of imperatives (*ta-* before initial consonant: *ta-gawe* make!, *t-* before initial vowel: *t-aměñ-aměñ* divert yourself!); 2. the alternant of the pronominal suffix morpheme of the second person *-ta/-nta/-a* (*-ta* after final consonant except *t*: *liñ-ta* your words, *-nta* after final vowel: *ari-nta* your younger brother, *-a* after final *t*: *alot-a* your continuously being...); and 3. the word *ta*, used in certain positions in the sentence. It is this last *ta* which will form the topic of this article.

The material on which this study is based is the Old Javanese version in prose of the *Adiparwa*, the first book of the Sanskrit epic *Mahabharata*. The relatively simple, artless prose of this extensive 10th century text forms a better basis for a description of Old Javanese than the metrical texts of the same period, because the phonological, morphological and syntactical devices used by Old Javanese poets to comply to metrical requirements tend to conceal the regularities present in the language of that period. The *Adiparwa* was edited by Juynboll in 1906 in a philologically as well as linguistically unsatisfactory way.<sup>1</sup> The spelling used in this article deviates from the Juynboll edition in five important respects. It is made more phonemic by using only *s* instead of *ç*, *ś* and *ṣ*, by not distinguishing between aspirated and unaspirated stops, by not indicating vowel length, by not writing double consonants and finally by writing *rě* instead of *r*.<sup>2</sup> Moreover a more systematic method of word-division has been introduced; suffixes and enclitic elements are never written separately.

Although little is known about Old Javanese syntax, the particle *ta* by its extremely frequent use has attracted the attention of several scholars. In his *Adiparwa-mono-*

<sup>1</sup> H.H. Juynboll, *Adiparwa. Oudjavaansch prozagedicht*. The Hague 1906, VI+214 pp.

<sup>2</sup> It is assumed that Old Javanese as spoken in the time the translation of the *Mahabharata*-epic was made had 27 phonemes, 20 consonant and 7 vowel phonemes. The consonant phonemes are 1) the stops *p*, *b*, *m*; *t*, *d*, *n*; *ṭ*, *ḍ*; *c*, *j*, *ñ*; *k*, *g*, *ṅ*; 2) the fricative *s*; 3) the liquids *l*, *r*; 4) the semivowels *w*, *y*; 5) the glottal consonant *h*. The vowel phonemes are: *a*, *i*, *u*, *e*, *o*, *ě* and *ö*.



graph<sup>3</sup> Zoetmulder clearly recognized the important role of this particle and provided a list of positions in which *ta* could occur. Gonda made some interesting remarks on the function of *ta* comparing it with the Greek particle  $\delta\epsilon$ .<sup>4</sup>

*Ta* is not the only particle with syntactic function found in the Adiparwa. Other particles with similar functions are *pwa*, *taya* and *pwaya* (to be distinguished from the sequences of *ta+ya* and *pwa+ya*), and finally *pwayata* and *tapwa*. These last two particles are seldom found in the Adiparwa (5 and 7 occurrences respectively). *Taya* is more frequent than *pwaya* ( $\pm 100$  versus 22 occurrences), while *ta* is about eight times as frequent as *pwa* ( $\pm 2000$  versus  $\pm 250$  occurrences).

As Zoetmulder has pointed out, it is difficult to find any difference between *ta* and *pwa*. In the following paragraphs we will limit ourselves to *ta*, but at some points in the discussion we will have to say something about the other particles too.

## II

It seems advantageous to begin our exposé of the position and function of *ta* with the discussion of a sentence-type which is probably the most frequent not only in the Adiparwa and related prose texts, but also in metrical texts of the same period. A few simple instances of this type are the following sentences:

- (1) *měna ta sañ hyaṅ prětiwi* (15 : 9), the earth opened
- (2) *inalapmami tekaṅ<sup>5</sup> lěmbu* (91 : 20), the cow was taken by me
- (3) *kaluṅa taṅ lek lawan tahun* (93 : 23-24), the months and years passed by
- (4) *mahuripa ta striniṅhulun* (22 : 8), let my wife live!

The sentences (1)–(4) have in common that they have a bipartite structure. In all four sentences *ta* is preceded by one single word which belongs to a different sentence-part than the word or the words which follow *ta*. The syntactic function of *ta* is clearly to indicate a boundary between two different functional sentence-parts. The use of *ta* is not obligatory. However, if *ta* is present, it is always found in these bipartite sentences after the first word, while the words immediately before and after *ta* belong to different sentence-parts.

As the first word in these bipartite sentences with *ta* is either a verb or an adjective, and as what follows *ta* is a noun or proper name, or as in (3) a nominal group, it seems natural to call *měna* in (1), *inalapmami* in (2), *kaluṅa* in (3) and *mahuripa* in (4) the predicate of each sentence, and to call *sañ hyaṅ prětiwi* in (1), *ikaṅ lěmbu* in (2), *ṅ lek lawan tahun* in (3) and *striniṅhulun* in (4) the subject of the sentence. However, for reasons which will gradually become clear, we will refrain from doing so. We will simply symbolize what we know about the sentences (1)–(4) with the formula A-*ta*-B.

<sup>3</sup> P.J. Zoetmulder, *De taal van het Adiparwa, een grammaticale studie van het Oud-Javaans, Verhandelingen Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen* 79 (1950), VI+261 pp.

<sup>4</sup> J. Gonda, *On Old-Javanese Sentence Structure, Oriens Extremus* 6 (1959), p. 57-67.

<sup>5</sup> There is sandhi of *ta* with the initial vowel of the next word if this vowel is *a* or *i* according to the following rule: *a+a=a*, *a+i=e*

We will now proceed with slightly more complicated sentences, occurring as frequently as (1)–(4). They also display the structure A-*ta*-B, but they contain additional material which follows B. Some examples:

- (5) *těka tañ mega sakeñ dasadesa* (37 : 19), the clouds came from the ten points of the compass
- (6) *majar ta sire bařara Wisnu* (35 : 2), he said to the god Wisnu
- (7) *mulih ta sira ri kařatwanire Hastinapura* (7 : 18–19), he returned to his royal residence in Hastinapura
- (8) *sinahut ta suku sañ Pramatana denikañ ula* (21 : 21), the foot of Pramatana was bitten by the serpent
- (9) *sinwagatan ta sira de sañ ibu* (37 : 12), he was welcomed by his mother
- (10) *magawe ta sira tarpana* (3 : 11), he performed a sacrificial ceremony
- (11) *maweh ta sira bojana ri sañ brahmana* (123 : 25–26), he gave a banquet to the brahmans

Traditionally one would be inclined to call *sakeñ dasadesa* in (5) *i bařara Wisnu* in (6) and *ri kařatwanire Hastinapura* in (7) prepositional adjuncts, *denikañ ula* in (8) and *de sañ ibu* in (9) logical subjects, and *tarpana* in (10) and *bojana* in (11) objects, and *ri sañ brahmana* in (11) again a prepositional adjunct.

It is clear that from the point of view of the function of *ta* nothing has changed from what we found in (1)–(4). Whatever analysis we wish to adopt for the sequence or single word which follows B, *ta* still separates two different sentence-parts and its place remains directly after the first word of the sentence. Up to this point a traditional analysis would not be faced with any difficulties, but in the following sentences which also contain the A-*ta*-B-structure, such analysis seems less easy to perform:

- (12) *wineh ta sira asana* (2 : 15), he was given a seat
- (13) *inanugrahan ta sira sarwawidya* (11 : 10), he was granted the privilege of omniscience
- (14) *mari ta sira minum susu* (9 : 29), he stopped drinking milk
- (15) *mahyun ta sañ Kadru maměñ-aměña ri tiraniñ samudra* (37 : 13–14), Kadru wished to divert herself on the sea-shore
- (16) *kinonira ta wwañsanaknira katiga rumakseñ kařatwanira* (8 : 13–14), he asked his three brothers to guard his kingdom
- (17) *kapañgih tañ stri manañis ri tiraniñ Jahnawi* (185 : 24), the woman was found weeping on the bank of the Jahnawi
- (18) *dadi ta sira wuta* (10 : 14), he became blind

The nouns *asana* in (12) and *sarwawidya* in (13) are elements of the sentence which cannot be said to belong to B. This means that they may either be analyzed as a sentence-part in their own right or as part of A. The sentences (14)–(18) differ from (12) and (13) by the fact that in (14)–(18) B is followed by a group beginning with a verb. Theoretically there are three possible analyses for these groups: they may be viewed as expansions of A, as expansions of B, or as a sentence-part distinct from A

and B.

From the point of view of *ta* there is no need to make a choice between these various analyses. There is also no need to discuss other sentences in which B is followed by more complicated wordgroups or combinations of wordgroups, because this would not give us more information concerning our particle. It is customary to consider *ta* a particle of emphasis. It is assumed that *ta* emphasizes the word or the sentence-part which is immediately followed by this particle. We are of the opinion that in the sentences (1)–(18) *ta* distinguishes two different sentence-parts, indicating at the same time that the A-*ta*-B-structure functions as the nucleus of a sentence.

If we now look into the material which may precede A, one discovers three regularities. In the first place one notices that A may consist of a verb or adjective preceded by a negative or verbal auxiliary. This has no influence on the position or function of *ta*, witness sentences such as:

- (19) *ndatan paweh ta bagawan Wasisṭa* (159–160), the holy Wasisṭa did not give (it)  
not give
- (20) *paḍa lumawad ta sira mpu kabeh* (21 : 26–27), all the hermits came running  
all come running  
along
- (21) *tatan enak tambèk bagawan Caṇḍabargawa* (57 : 5–6), not at ease was the heart  
not at ease  
of the holy Caṇḍabargawa

In the second place preceding clauses consisting of more than one word do not affect position and function of *ta* in any way:

- (22) *saḍatèṅ saṅ Ugrasrawa, sinwagatan ta sira de saṅ tamolah iṅ asrama kabeh* (2 : 12–13), after Ugrasrawa had arrived, he was welcomed by all who lived in the hermitage
- (23) *irikaṅ sakatambesuk, mijil ta maharaja Drupada riṅ saba* (178 : 1–2), on the following morning, king Drupada went out to the audience hall
- (24) *tēlasira magawe snanawidi, amuja ta sira* (152 : 19–20), after having performed the bathing-ceremony, he prayed
- (25) *satèkanyèṅ taman, katon ta saṅ Tilotamaṅalap sèkar* (195 : 15), after they had arrived in the garden, they saw Tilotama gathering flowers
- (26) *ri huwus saṅ Tilotama anèmbah, lumampah ta sira mare kahanan ikaṅ daitya* (195 : 6–7), after Tilotama had made a *sèmbah*, she went to the place where the demons lived
- (27) *ri huwuss aṅ Aṣṭabasu mulih riṅ swarga, tumurun ta saṅ Prabata maṅ janma* (95 : 8–9), after the Aṣṭabasu had returned to heaven, Prabata descended to become a human being
- (28) *ri huwusniṅ yajña, maweh ta sira bojana ri sira mpu* (7 : 17), after the sacrifice was finished, he gave food to the holy men

These extremely frequent sentence-structures may be symbolized by the formula C-A-

*ta*-B. By this we simply indicate that in a *A-ta-B*-structure a third sentence-part *C* distinct from *A* as well as from *B* precedes *A*. It is important to notice that *ta* never occurs after *C*, and that there is only one single *ta* in all the sentence-structures discussed so far.

In the third place *ta* does not occur in the sentence when *A* is immediately followed by other sentence-parts, witness sentences such as:

(29) *katon de sañ wiku riñ Sataśrēṅga sira kabeh* (121 : 19–20), they were all seen by the monks of Sataśrēṅga

(30) *mēkul suku bagawan Sukra sira* (80 : 2), he clasped the feet of the holy Sukra

(31) *tinaṅgap sañ Utañka ikañ kuṇḍala* (15 : 27), the earrings were accepted by Utañka

If one looks now into the clauses which may precede the *A-ta-B*-structure and if one compares them with what may follow this *A-ta-B*-structure, then one notices that clauses that precede *A* are always temporal clauses and that such clauses never follow *B*.

The question arises now as to whether it is always possible to distinguish between temporal clauses and sentences. The point of view we have adopted implies that the presence of *ta* within such a clause functions as a criterion.

Structures with *ta* such as:

(32) *huwus kahasan tekañ Rewatakagiri denira, tumuhuy ta sira mareñ Dwarawati* (201 : 16–17), after having wandered through the Rewataka mountains, they went on to Dwarawati

(33) *huwus magēlar ta sakweh sañ ksatriya, madēg ta sañ Drēṣṭadyumna* (178 : 9), after all the knights had taken up their positions, Drēṣṭadyumna stood up

(34) *pira ta kunañ lawasnira makasisya ri sañ Utañka, pininañ ta sira milwa riñ yajña de maharaja Janamejaya* (11 : 19–21), after having Utañka as a pupil for some time, he was invited to participate in the offering by king Janamejaya

would have to be considered as sequences of two sentences.

The same would be the case for the structure

(35) *mañēn-añēn ta sira aparān ta kunañ hetuniñ sapa* (7 : 19–20), he was pondering: what could have been the cause of the curse

On the other hand structures such as:

(36) *huwus manak sira ṅkana, lumampah ta sira mariñ Gokarnaparwata* (201:7), after having become the father of a child there, he went to the Gokarna-mountains

(37) *pira kunañ lawasnira hana ṅkana, manak ta sañ Subadra laki-laki paripurna sulaksana* (204–205), after having been there for some time, Subadra had a son of perfect beauty

would have to be viewed as one single sentence.

### III

The structures we have discussed so far may be symbolized in the following way. First we examined structures of the type *A-ta-B*, then structures we could provisionally

indicate by the formula *A-ta-B-C*, and finally we paid attention to *C-A-ta-B*-structures. All these sentence-structures had in common that *A* consisted of one single word, namely a verb or an adjective, at most combined with a preceding negative or verbal auxiliary. We will proceed now to a discussion of other elements which may precede the *A-ta-B*-structure. Let us first present some of the sentences in which these elements are found:

- (38) *wĕkasan mijil ta Danwantari* (33 : 9), finally Danwantari appeared
- (39) *mañkin amrih ta sañ Astika mañastuti ri maharaja Janamejaya* (57 : 21–22), Astika strove more and more to praise king Janamejaya
- (40) *atĕhĕr basmibuta ta awaknira madadi hawu* (53 : 25–26), thereupon his body was reduced to ashes
- (41) *muwah katon ta wanĕaynikañ Purocana* (140 : 3–4), also became visible the dead body of Purocana
- (42) *tadanantara ðatĕñ ta sañ Bimarjuna makoliñ sañ Dropadi* (181 : 4), immediately Bima and Arjuna came, having succeeded in getting Dropadi
- (43) *tĕlasnya mañaji ta ya danurdarasastra* (95 : 34–35), after having finished (this), he learned the art of archery

In otherwise similar sentence-structures at least the words *wĕkasan*, *mañkin*, *muwah* and *atĕhĕr* are also found immediately followed by *ta*:

- (44) *wĕkasan ta mañastuñkara bagawan Srutasrawa* (8 : 7–8), finally the holy Srutasrawa gave his blessing
- (45) *mañkin ta sira añaraman harsa deniñ kapañanan ikañ sarwasatwa* (207 : 24–25), more and more he raged, happy that all the creatures were consumed by the fire
- (46) *muwah ta sañ Kunti kinon añaradana bañara Bayu* (120 : 19), again Kunti was told to summon the god Bayu
- (47) *atĕhĕr ta siragawe panotsawa* (205 : 22–23), thereupon he gave a banquet

If one holds the view that *ta* has the function of emphasizing the word which precedes it, one has to make plausible that for instance *atĕhĕr* in (47) is emphasized, but not in (40). Such a difference cannot be shown to exist. One could also maintain that the different position in the two sets of sentences reflects a difference in syntactic structure. One could assume that the structure of (44)–(47) is fundamentally the same as the sentences (1)–(18), *wĕkasan*, *mañkin*, *muwah*, *atĕhĕr* etc. simply functioning as *A* in a *A-ta-B*-structure, of which *B* would be not a single noun or nominal group, but a group with sentence-structure.<sup>6</sup>

We do not believe that this view is correct. We are of the opinion that the different position of *ta* may be explained as the result of two conflicting tendencies. The first is that *ta* takes second place in the sentence, the only exception to this rule being the temporal clauses mentioned above. The second is that *ta* follows the *A*-element of a *A-ta-B*-structure. This view finds some support in two other facts: 1) in sentences such as (42) and (43), which may be said to begin with a temporal adjunct, *ta* is in

<sup>6</sup> A group with sentence structure is a wordgroup which by itself can function as a sentence.

exactly the same place as in sentences beginning with a temporal clause, 2) some of the elements which may be immediately followed by *ta*, such as *atēhēr* and *muwah*, and perhaps also *pilih*, seem to be verb-like elements;<sup>7</sup> as such they could easily be followed by *ta*.

## IV

A fourth construction in which *ta* occurs in second position is the construction characterized by the presence of an imperative or by the vetative element *haywa*.

In Old Javanese there are imperatives of three different types: imperatives with prefix *ta-/t-*, imperatives with prefix *pa-/p-* and finally imperatives without any prefix. The mutual relations between these three forms are largely unknown. In all three cases *ta* is found immediately after the imperative, which forms the first word of the sentence except when preceded by an interjection or by the name of the person addressed. A condition for the occurrence of *ta* is that *ta* should be followed by at least one other word, as *ta* never occurs in final position.<sup>8</sup> Some examples:

- (48) *tagawe ta upaya* (22 : 18), invent a trick!
- (49) *tasyasih tañjanma kita ri kami* (91 : 25-26), please incarnate yourself in me!
- (50) *tawarah ta kita sayuktinya i krama sañ Puloma winehakēn inñhulun* (19 : 9-10), tell me the whole truth concerning the matter of Puloma being given to me!
- (51) *wijil ta kita, bēlah ta wētēñku hawananta mētū* (75 : 17), go out, split my belly, so that you may leave that way
- (52) *warah ta ññhulun, ibu, ri prayojananta* (197 : 20), tell me, my dear, what your intention is!
- (53) *pañher tanaku sakarēn* (158 : 20-21), wait, my child, a moment!
- (54) *matañyan, sañ Madri, tasyasih teñu tañ rare kalima* (122 : 21), therefore, Madri, please look after the five children!

In those rare cases in which the imperative consists of two closely connected words there seems to be no fixed rule. *Ta* may follow the second word as in

- (55) *arah, laku mur ta ko saka ñke* (69 : 28), Come on, you, get out of here!

However, in one case *ta* is found twice:

- (56) *laku tebēr<sup>9</sup> ta kita* (213 : 5), fly away!

In still other cases *ta* is omitted:

- (57) *alap lēmbu sañ Wasista* (94 : 21), take the cow of the holy Wasista!
- (58) *pañan tahi ni lēmbunñku, inum uyuhnya* (13 : 5-6), eat the excrement of my cow, drink its urine!

While *ta* is hardly ever absent in imperative constructions, its use after *haywa* (do not, you must not) is certainly not obligatory. It is not possible to discern any difference

<sup>7</sup> Our limited knowledge of the system of Old Javanese wordclasses prevents a more exact statement.

<sup>8</sup> This also applies to *pwa*, but not to *pwaya* and *pwayata*.

<sup>9</sup> Here again there is sandhi: *ta + ibēr*, (to) fly. A more literal translation would be: go fly away you.

between constructions beginning with *haywa ta* and with *haywa* not followed by *ta*; compare for instance

(59) *haywa ta kita sahsaya* (28 : 19) with

(60) *haywa kita sahsaya* (136 : 9; 158:19), do not be worried.

It is difficult to maintain that in these imperative and vetative constructions *ta* has an emphatic function. In the case of the imperative construction there is no contrast with constructions without *ta*, while in the case of the vetative constructions the presence of *ta* does not make any observable difference. One final remark should be made. It is remarkable that the word which follows *ta* in the imperative and vetative constructions is in most, but not in all cases, a noun or a pronoun. If it is true that this noun or pronoun constitutes a sentence part of its own, it seems quite comparable with the B-element in the A-*ta*-B constructions discussed earlier in this article.

## V

There is still another group of constructions in which *ta* regularly occurs. These constructions are characterized by the presence of a deictic element immediately preceding *ta*. In Old Javanese the deictic words<sup>10</sup> fall into two classes: interrogatives and non-interrogatives. Both may occur immediately followed by *ta*. Let us first pay attention to the sentence structure with an interrogative followed by *ta*. The interrogative is in most cases<sup>11</sup> in initial position. It is immediately followed by *ta*. This particle itself is followed by a noun, a non-interrogative pronoun or a nominal group. Some examples:

(61) *syapa ta kahyunta aradananiñhulun* (120 : 1-2), whom do you want me to summon?

(62) *apa ta dayaniñ mañhuripana piñrwa piñtiga* (74 : 24), what is the use of restoring him to life two or three times?

(63) *aparan ta karananta mañnutusi kami* (37 : 30-31), what is the reason that you have sent me?

(64) *ndi ta paran mpuñku* (52 : 1), where is it that you are going, my holy father?

(65) *pira ta kweh nikañ naga mati* (23 : 19), what is the number of the dead serpents?

The structure of these interrogative sentences is quite similar to the A-*ta*-B structures previously discussed. In these interrogative structures the interrogative element clearly is or forms part of a sentence-part different from the sentence-part to which the element following *ta* belongs. However, it is not quite certain that the deictic element *qua* sentence part is to be identified with A in the A-*ta*-B structures. On the other hand the identification of the sentence-part which follows *ta* with the B element in the A-*ta*-B-structure is much more plausible in view of its nominal composition.

The use of *ta* after an interrogative is not obligatory. A comparison of interrogative

<sup>10</sup> No satisfactory description of the Old Javanese deictic elements is available, but the distinction between interrogatives and non-interrogatives is safely established.

<sup>11</sup> The interrogative followed by *ta* may be preceded by a temporal clause or a clause introduced by conjunctions such as *an*, *yan* or *yapwan*.

sentences with and without *ta* does not lead to a clear conclusion. Rhetorical questions such as (62) seem to require *ta*, in a few other cases it seems that *ta* confers a certain emphasis to the question asked, but this is not the case in all sentences. For the moment the only safe conclusion to be drawn is that the presence of *ta* indicates that the interrogative element, together with the nominal group which follows, functions as a sentence. Compare for instance (65) with the following sentences in which interrogative elements without *ta* occur in a subordinate clause:

- (66) *ikañ naga mati riñ yajña sarpa, kaharēp mami rēñōñihulun, sañ Ugrasrawa, yan pira kwehnikañ naga tiba riñ kuṇḍa lawan syapa pañarananya* (58 : 27–29), the serpents which died during the serpent sacrifice, I would like you to tell me, holy Ugrasrawa, how many serpents fell into sacrificial fire and what are their names?
- (67) *ndak atakwan ta ri kita sañ tapini, syapa ñaranira mpu sañ tamolah ikeñ patapan ñke, mwañ ndi paranira matañyan asēpikañ asrama?* (66 : 10–11), I ask you, female ascetic, what is the name of the holy man who lives in this hermitage and where has he gone, seeing that the hermitage is deserted.

In the constructions with a non-interrogative deictic element, this deictic element refers to a topic introduced by the preceding sentence. In the narrative prose of the *Adiparwa* the most frequent type is the introduction of a person in a preceding sentence often beginning with *hana*, there was. Some examples:

- (68) *hana ta sira rēsi Wasista ñaranira. sira ta makalēmbu i sañ Nandini* (91 : 19), there was a hermit called Wasista. he had as cow Nandini
- (69) *tucapa ta sañ Duryodana. sirata prihati rumēñō kanuragan sañ Paṇḍawa* (136 : 24–25), let us now speak about Duryodana. he was distressed to learn how popular the Paṇḍawa's were
- (70) *hana ta puyuh stri si Jarika ñaranya. ya ta pinaka strinira* (211 : 12), there was a female quail, by the name of Jarika. she was taken by him as his wife

No less frequently used are deictic elements such as *irika*, *ñkana*, *mañkana*, *samañkana*, *nahan*, *nihan* and *ika*:

- (71) *ñkana ta siran tiba kalēbw iñ sumur* (10 : 15–16), there it was that he fell into the well
- (72) *mañkana ta pañastuti sañ dewata kabeh* (37 : 8), thus was the praise of all the gods
- (73) *samañkana ta sañ Jaratkaru magawe tapa* (24 : 18–19), so long was the time that Jaratkaru practiced asceticism
- (74) *nahan tañ wrēksa warinin* (52 : 11), there is the waringin-tree
- (75) *nihan ta sañ hyañ Agni* (19 : 5), here is the god Agni
- (76) *ika ta sañkanikañ pasēgēh kabeh* (159 : 27–28), that is where all the refreshments for the guests came from
- (77) *ya ta hetuniran umandēmi pada sañ brahmana* (152 : 11), that was the reason why he threw himself at the feet of the brahman

The function of these constructions with anaphoric element with *ta* is to focus on the topic referred to in the previous sentence and to say something about this topic emphat-



ically. The sentence-part which follows *ta* may be a verbal group or a nominal group. Both possibilities are shown by the following sentences:

- (78) — *ya ta winehakēnire sañ Arjuna* (206 : 27), that was what was given by him to the royal Arjuna
- (79) — *ya ta pawehnire sañ Krēsna* (207 : 5), that was his gift to the royal Krēsna
- Closely related to these constructions are the sentence structures characterized by the presence of two sentence-parts both preceding *ta*. The second consists of a non-interrogative deictic element, which refers to the first sentence-part. These constructions may be called focus constructions, because by means of the anaphorical element strong emphasis is laid on the initial sentence-part. Some examples:
- (80) *satēnahni huripta, ya ta pawehanta huripa sañ Pramātana* (22 : 21–22), half of your life, that is what you have to give to restore Pramātana to life
- (81) *kadi pucak niñ wukir abañ deniñ datu, mañkana ta lwirni wañkaynya gumuliñ in prētiwitala* (34 : 18–19), like the top of a mountain red because of ore, such was the appearance of the dead bodies piled up on the surface of the earth
- (82) *yan hana wwañ utsaha sumēñkakna sañkeñ wwe kahananyu, irika ta kamu muwaha widyadari* (200 : 18–19), when there comes a man who is able to take you out of the water, at that moment shall you become a celestial nymph again
- (83) *ikañ kuṇḍala, sarika<sup>12</sup> ta kahyuniñhulun* (12 : 25), the earrings, they are what I desire
- (84) *sañ hyaṇ Indra, sira ta mahawan ri piñgiriñ Gaṅga* (185 : 21), the god Indra, he rode along the bank of the (river) Gaṅga
- (85) *asiñ sakatēmu denira, ya ta pinañan juga* (169–170), whatever he found, that was simply eaten by him

## VI

As in Modern Javanese, there are various types of bipartite sentence structures in Old Javanese. There are equational structures, and there are also nominal bipartite structures. While A-*ta*-B-structures in which A is an adjective or a verb abound, *ta* is normally absent if the sentence part preceding *ta* is a noun or a nominal group. In other words bipartite sentences with *ta* such as the following are extremely rare in the Adiparwa:

- (86) *wēka-wēka Puru ta sira* (60 : 21), he is a descendant of Puru
- (87) *ratu suryawaṇsa ta kita* (170 : 5), you are a king of the Solar race
- (88) *kadi lwirku ta lwiranta* (46 : 13), let your form be like mine
- (89) *wikubрати pwa sira* (20 : 22), he is a friar who has taken his vows
- (90) *sañ Sunaka ta makawēka kita* (23 : 11), Sunaka had you as his son

In these sentences it is difficult to assume that *ta* (or *pwa*) functions as a particle of emphasis. However, one might attribute to *ta* a kind of contrastive function in the

<sup>12</sup> Compare the interpretation of Zoetmulder of this sentence (Zoetmulder o.c., p. 26).

following two sentences in which a proper name followed by *ta* precedes an anaphorically used deictic element

- (91) *lumampah ta sira; sañ Utañka ta sira kinon an atuñgwa patapan* (11 : 22-23), he went, but Utañka, he was asked to guard the hermitage
- (92) *sañ Pramataana ta sira kahyun sañ Ruru* (21 : 9), Pramataana, she was desired by Ruru

## VII

After this survey of constructions in which *ta* may occur, it becomes possible to formulate three general rules which govern the position of *ta* in the sentence:

- 1) *ta* occurs only once in a sentence
- 2) *ta* does not occur in initial or final position in the sentence
- 3) *ta* occurs only after the first functional sentence part, except when a sentence begins with a temporal clause or a clause introduced by *an*, *yan* or *yapwan*.

If a sentence begins with such a clause, there are two positional possibilities depending on the structure of the clause. If the clause consists of more than one word, *ta* is found after the second sentence part. If the clause consists of one word, *ta* occurs either immediately after the clause or after the second sentence part.

As for the function of *ta*, the following conclusions can be reached.

1. Only when *ta* occurs in combination with a deictic element may one attribute to *ta* an emphasizing function. Only in this case is there an opposition with constructions with deictic elements without *ta*. In nearly all other cases *ta* fulfils the syntactic function of demarcating two different sentence parts, which together with *ta* may be said to form the nucleus of the sentence.
2. It is possible to describe the position and the function of *ta* without introducing the traditional notions of subject and predicate. However, for this descriptive purpose it is necessary to distinguish between various sentence parts within the sentence.

The positional rules and the description of the function of *ta* cover most, but probably not all occurrences of *ta* in the texts under investigation. Some residual cases remain which will need further research. It is also clear that for a completely satisfactory description of *ta* deeper knowledge is required of other aspects of Old Javanese syntax than now is available.

# THE SYSTEMS AND CHARACTERISTICS OF MODERN SINO-KOREAN PRONUNCIATIONS

CHANG-KYUN YU

## CONTENTS

- I. Introduction
- II. The Patterns and Formation of Modern Sino-Korean Pronunciation
- III. The System of the Standard Pronunciation
- IV. The System of the Vulgar Pronunciation
- V. Conclusion

## I. INTRODUCTION

1-1. The purpose of this paper is to describe the pattern of modern Sino-Korean pronunciation. While describing the pattern of modern Sino-Korean pronunciation some mention of (1) the factors which effected the formation of modern Sino-Korean pronunciation and (2) the relations between pure Korean and Sino-Korean during the formation of the modern Sino-Korean pronunciations will also be made when necessary. However, because a thorough investigation on the historical development of Sino-Korean pronunciations has not been done I will not be concerned too much with these problems.

1-2. The symbols used in this paper are as follows:

(1) The symbols used to transcribe the Korean alphabet when describing the Sino-Korean pronunciation are enclosed in / /, e.g.

ㄱ /k/, ㄷ /t/, ㅂ /p/, ㅈ /ts/, ㅅ /s/, ㅎ /h/  
ㅋ /kh/, ㅌ /th/, ㅍ /ph/, ㅊ /tsh/  
ㄴ /n/, ㄷ /t/, ㅍ /p/, ㅈ /ts/, ㅅ /s/  
ㅇ /ŋ/, ㄴ /n/, ㅁ /m/, ㄹ /r/  
ㅣ /i/, ㅐ /e/, ㅖ /ɛ/, ㅑ /je/, ㅕ /jɛ/, ㅡ /ɨ/, ㅓ /ə/, ㅗ /a/  
ㅜ /u/, ㅟ /o/, ㅛ /wi/, ㅜ /we/, ㅟ /we/, ㅞ /wɛ/, ㅝ /wə/, ㅚ /wa/  
ㅓ /ja/, ㅕ /jə/, ㅛ /jo/, ㅜ /ju/

(2) The symbols used to show the mid-ancient Chinese pronunciations are those of Mr. Tung, t'ung ho 董同龢 *Chung-kuo-yü-yin-shih* 中國語音史 except that the medial vowel (介母) [j] is changed to [i] and medial vowel (介母) [i] is changed to [j]. These symbols are enclosed in [ ].

1-3. The present-day ok-pheons (玉篇) used in this paper to refer to the modern Sino-Korean pronunciation are

- (1) Sin-jajeon (henceforth KS) published by Chosun-kwangmunhoe, 1903.
- (2) Seonwha-sajeon (henceforth PS) published by Pakmun-seokwan, 1944.
- (3) Myungmun-sin-okphyeon (henceforth MS) ed. by Kim Hyuk-che, 1960, and
- (4) Choesin-dae-jawon (henceforth HT) published by Hongja-chul phansa 1967.

## II. THE PATTERNS AND FORMATION OF MODERN SINO-KOREAN PRONUNCIATION

2-1. We find at least two factors which played an important role in the formation of modern Sino-Korean pronunciation. One is the pattern of sound changes of pure Korean. Some historical changes of the Sino-Korean pronunciation are parallel to those of pure Korean. The other is the pronunciation prescribed by the Yünshu (韻書). People constantly tried to follow the norm of the Yünshu used as text for the Sino-Korean pronunciation. We may call the first factor an internal factor and the second, an external factor. We find that the Sino-Korean pronunciations of any stage are influenced by the two factors mentioned above. Hence, we have to pay much attention to the changes of Sino-Korean pronunciation influenced by the pattern of sound changes of pure Korean, and also to the Yünshu system of Chinese pronunciation which exerted influences on the pronunciation of Sino-Koreans of that time.

2-2. When a change in the pronunciation of Sino-Korean words was parallel to that of pure Korean words, we can say that they were not considered as loan words any more but they were felt by the people to be pure Korean words. Hence, we might say that the pronunciation of those Chinese words were within the phonemic system of pure Korean. There are cases where a change in the phonemic system of pure Korean influenced a change of the pronunciation of Chinese words in Korea. To give an example of a change of Sino-Korean pronunciation which was a result of a change in the pure Korean phonemic system, the loss of /ʌ/ which occurred in the 17C. caused the change /ʌ/ > /a/ in all Chinese words which had the vowel /ʌ/.

2-3. The systems of the pronunciations of Chinese characters in Yünshu, the "external factor" for the change of Sino-Korean pronunciations, have had a close connection with the standardization of the pronunciations of Chinese characters. As a rule, most of the Sino-Korean words have been technical words or cultural words. They have been used in written discourses or texts by the intellectuals. Even if there are many Sino-Korean words which have been commonly used in daily life just as pure Korean words, most of the Sino-Korean words were learned and spread through higher education. Hence, the historical changes of the pronunciations of Sino-Korean words were generally governed by the systems of the inactual Yünshu pronunciations of Chinese characters within the Korean phonemic system while the changes of the pronunciations of pure Korean words were governed by the general rule of sound change. In this sense, the changes in the pronunciations of Sino-Korean words are generally

conservative.

2-4. These conservative characteristics of Sino-Korean pronunciation have resulted from the constant efforts to standardize the pronunciations of Sino-Korean words as technical or cultural words. The norm of the standardization of the pronunciations of Sino-Korean words has always been *yünshu*. Ever since the 15C. *yünshu* were the norm of Sino-Korean pronunciations. Hence, the Sino-Korean pronunciations of a certain time are always the reflex of *yünshu* which are the norm of them, and any pronunciation which is out of the *yünshu* system, in isolation from the system, has been called "vulgar pronunciation."

In recent years, *ok-pheons* replaced *yünshu* which have been the norm of Sino-Korean pronunciations ever since the *Tong-kuk-tseong-un* (東國正韻) was published in 15C.<sup>1</sup> In the past, people referred to *yünshu* to find the correct pronunciations of Chinese characters but now they refer to *ok-pheon* instead. However, because the editors of *ok-pheon* take the system of *yünshu* as the norm in editing *ok-pheon* the situation is the same as before. The only difference is that each *ok-pheon* might have used different *yünshu* as their norm. It is not uncommon that the Sino-Korean pronunciations of *ok-pheon* or *yünshu* do not represent the actual linguistic fact. For example, HT shows the distinction between Korean spelling /ㅛ/ and /ㅟ/ as follows:

/ㅛ/ 匯回壚壞廻徊恢悔懷晦...

/ㅟ/ 卉喙毀虫虺

The Korean alphabets /ㅛ/ and /ㅟ/ are not phonemically distinctive in most cases except in a few pure Korean words.<sup>2</sup> The pronunciations of the two series of characters are not distinguishable from each other but in *ok-pheon* they are still strictly distinguished. This fact that the two sounds which are not phonemically distinctive are distinguished in *ok-pheon* is because it followed the system of *yünshu* to standardize Sino-Korean pronunciations. We may not overlook the fact that the pronunciations in *ok-pheon* are not actual pronunciations but rather prescriptive pronunciations for the standardization of Sino-Korean pronunciations according to the *yünshu* system.

2-5. There are three types of Sino-Korean pronunciations:

- (a) The pronunciations prescribed as "standard" by *ok-pheon*,
- (b) The pronunciations prescribed as "vulgar" by *ok-pheon*, and
- (c) The pronunciations of the words which were originally Sino-Korean but which are completely absorbed into Korean.

2-6. The fan-ts'ie (反切) of *yünshu* which is transcribed in the Korean alphabet is the "standard pronunciations" of Sino-Korean. All Chinese characters have "standard pronunciations" based on the fan-ts'ie of the *yünshu*.

The following is an example of how the pronunciation of a Chinese character is in-

<sup>1</sup> It was in the 15 c. that an attempt was made to edit a Korean *yünshu* apart from the Chinese *yünshu*. The *Tong-kuk-tseong-un* is the first work of this kind.

<sup>2</sup> ㅛ and ㅟ are well distinguished in letters but not in their pronunciations.

licated in ok-pheon. The pronunciation of the Chinese character '丁' is shown as follows in MS.

丁

tsəŋ (靑韻)

təŋs (庚韻)

As the standard pronunciation of the character '丁', the two pronunciations /tsəŋ/ and /təŋs/ are given. It is not only because this character has two meanings but also because the two pronunciations are distinguished by the fan-ts'ie of yünshu, i.e. when '丁' is 靑韻 the fan-ts'ie of it was 當經 (taŋ-kjəŋ) and when 庚韻 the fan-ts'ie was 中莖 (tjuŋ-kajŋ). Later 當經 changed to /tsəŋ/ (/tjəŋ/ > /tsjəŋ/ > /tsəŋ/) and 中莖 changed to /təŋs/ (/tjajŋ/ > /tsajŋ/ > /təŋs/), hence, the two pronunciations are still distinguished. To follow ok-pheon these two pronunciations bear two different meanings, so they should be distinguished. However, those who are not educated pronounce the '丁' as /tsəŋ/ only, no matter what meaning it carries. That the HT which is published most recently does not give two pronunciations for this character confirms this fact. In most cases the "standard pronunciations" of ok-pheon differ from the actual pronunciations. However many people still try to follow the "standard pronunciations" of ok-pheon.

2-7. The pronunciations which are different from the fan-ts'ie of yünshu which appeared after mid-ancient period in China are called "vulgar pronunciations." In MS the pronunciation of the character '丑' is given as follows:

丑 /tshu/, vulgar pronunciation: /tshuk/

/tshu/ is standard pronunciation and /tshuk/ is vulgar pronunciation. The pronunciation of 丑 should not be other than /tshu/ because the fan-ts'ie of this character in yünshu is 敕久 (/tshik-ku/) or 齒九 (/tshi-ku/) but no one pronounces it /tshu/. It is always pronounced /tshuk/. Then why is /tshu/ taken as the standard pronunciation in ok-pheon? That is because ok-pheon took the fan-ts'ie of yünshu as its guide. These days, the pronunciations prescribed as "vulgar" are spoken by people. Hence, we can say that the vulgar pronunciations are the real Sino-Korean pronunciations rather than the pronunciations prescribed as standard in ok-pheon. Historically, the stages in which the standard pronunciations and vulgar pronunciations were formed may be the same but there are cases where the standard and vulgar pronunciations were formed in different stages as the case of '丑.' The formation of the pronunciation /tshu/ seems to be based on the post-mid-ancient Chinese yünshu. It seems that such a final consonant as the /k/ in /tshuk/ has its origin in pre-mid-ancient period. No yünshus which were published in post-mid-ancient period ever give fan-ts'ie of '丑' which shows that '丑' ends with the final consonant /k/.

2-8. There are some words which are originally Sino-Korean words but are realized by the people, as pure Korean words. The following is the number of vocabulary entries which appeared in *Kheun-sajeon* (Dictionary of Korean) which was published by the Hangeul Academic Society in 1957.

(a) Pure Korean	74,612	45.46%
(b) Sino-Korean	85,527	52.11%
(c) Loan Words	3,986	2.43%
Total 164,125		100.00%

It shows that the number of Sino-Korean words in Modern Korean is 6.65% higher than pure Korean words. Because the number of pure Korean words shown above includes the old Korean words which are not used any more, the proportion of Sino-Korean words to pure Korean words is in fact higher than that. Even if so many Sino-Korean words are used in Korean it is not difficult to distinguish the Sino-Korean words from pure Korean words because the Sino-Korean words have certain characteristics which allows us to distinguish them from Pure Korean words.

However, there are some Sino-Korean words which are completely absorbed into Korean and are no more recognized to be originated from Chinese. For example, /put/ 'a writing brush' etymologically came from the Chinese '筆' but people think that the pronunciation of '筆' is /phir/ and /put/ is a pure Korean word with the same meaning as '筆.' Actually the two forms /phir/ and /put/ are pronunciations of the same Chinese character '筆.' They are pronunciations of the character '筆' of two different stages. /put/ is the older pronunciation. The two forms were imported in two different stages. In the Sino-Korean pronunciation system the final consonant /-t/ appears as /-r/. It seems that the change /-t/ > /-r/ took place in an earlier stage but we don't have any evidence to tell exactly when this change began to take place. We only have evidence that this change may date from around the 8C. If it is true, we might say that the form /put/ is the pronunciation of '筆' before the change /-t/ > /-r/ took place, and /phir/ is the one after the change.<sup>3</sup> Since /phir/ is prescribed as standard by ok-phyeon, we know that this form corresponds to the fan-ts'ie of post-mid-ancient Chinese yünshu. Then, the form /put/ must have been imported before /phir/. We must not overlook the forms imported before the mid-ancient period in studying Sino-Korean pronunciations, since they represent more Koreanized forms. In the following, I will show some examples of this kind. (The pronunciations enclosed in // are the absorbed forms and the forms enclosed in [ ] are the standard pronunciations of the corresponding Chinese characters).<sup>4</sup>

- (1) /jo/ 褥 [jok], /tsa/ 尺 [tshək], /tso/ 粟 [sok]  
 /tsə/ 笛 [tsək], /po/ 沱 [pok], /tsho/ 燭 [tshok]  
 /phi/ 穉 [phe], /put/ 筆 [phir], /mək/ 墨 [muk]
- (2) /pjə-rak/ 霹靂 [pjək-rjək], /kje-tsa/ 芥子 [ke-tsa],  
 /u-poŋ/ 牛蒡 [u-paŋ], /seŋ-seŋ-i/ 猩猩 [seŋ-seŋ-i]

<sup>3</sup> Judging from some Chinese characters in 8 c. geographical inscriptions, there are many examples that can be interpreted in two types, /-t/ and /-r/.

<sup>4</sup> See Pak, En-yong (朴恩用): "Suffixes 'k, h' in declension," *Eo mun hak* (Dec. 1959, Taegu, Korea), p. 45.

/tsah-rje/ 次第 [tsha-tse], /mo-ran/ 牡丹 [mok-tan]  
 /tso-re/ 筮貝 [tso-ri], /po-pe/ 寶貝 [po-phɛ]  
 /thaŋ-kin/ 唐巾 [taŋ-kin], /mu-mjən/ 木綿 [mok-mjən]  
 /pɛ-tshu/ 白菜 [pɛk-tshɛ],

There are not so many examples but they are enough to notice the big difference between the forms enclosed in / / and the corresponding modern standard pronunciations. Since it needs further study to find how the two different pronunciations were developed, I will not discuss it further.

### III. THE SYSTEM OF THE STANDARD PRONUNCIATION

#### 3-1. Initial Sound (聲母)

3-1-1. The initial consonants of modern Sino-Korean are /p, t, ts, k, ph, th, tsh, kh, s, h, m, n, r/. Some ok-pheons add /ʔs/ and /ʔk/ to the thirteen consonants shown above.

The number of Sino-Korean initial consonants does not agree with the number of the initial consonants of pure Korean. The following chart compares the initial consonants of Sino-Korean and pure Korean.

Sino Korean	Pure-Korean
/p, t, ts, k/ .....	/p, t, ts, k/
(/ʔk/) .....	/ʔp, ʔt, ʔts, ʔk/
/ph, th, tsh, kh/ .....	/ph, th, tsh, kh/
/s, h/ .....	/s, h/
(/ʔs/) .....	/ʔs/
/m, n/ .....	/m, n/
/r/ .....	/r/

(1) The appearance of /ʔk/ and /ʔs/ is not systematic. Only one Chinese character 喫 /ʔkik/ has the sound /ʔk/. According to KS the pronunciation of the character is /kik/, but in other recently published ok-pheons the pronunciation of this character is written as /ʔkik/. Hence, we can say that the standard pronunciation of this character is /kik/ and /ʔkik/ is a vulgar pronunciation.

/ʔs/ also appears only before /-aŋ/. The three characters, ‘雙,’ ‘艘’ and ‘雙’ have the sound /ʔs/. In literature the pronunciations of these characters appear as follows:

/swaŋ/ in tong-kuk-tseong-un (東國正韻), 1447 and Pakthongsa-Eonhae (朴通事諺解), 1st ed., 1510?

/saŋ/ in Sohak-Eonhae (小學諺解), 1585,

/saŋ/ (vulgar pronunciation: /ʔsaŋ/) in KS, and

/ʔsaŋ/ in MS.

Historically, the initial sound of these characters has /s-/. For the first time in MS



/ʔs-/ began to appear as vulgar pronunciation, and finally became the standard pronunciation.

As explained above, the sounds /ʔk/ and /ʔs/ were originally not standard pronunciations but adopted as standard after they were commonly used. This is an example for a vulgar pronunciation to become the standard pronunciation. (The process for a vulgar pronunciation to become a standard pronunciation will be discussed in detail in the following chapter.) Anyway, /ʔk/ and /ʔs/ will be excluded from the system of standard pronunciations because they were originally the vulgar pronunciations.

(2) If /ʔk/ and /ʔs/ are excluded from the initial consonant system of Sino-Korean words, they do not have a single tense consonant such as /ʔp-, ʔt-, ʔts-, ʔk-, ʔs-/. It is a characteristic of Sino-Korean pronunciation system. This means that the Sino-Korean sound system was established before the tense consonants were developed in the pure Korean sound system. Influenced by the modern sound system of pure Korean, the tense consonants such as /ʔk/ and /ʔs/ began to appear in Sino-Korean words in recent years.<sup>5</sup>

(3) Because pure Korean words do not have /r/ in the initial position, the initial [l] of Chinese words was changed as follows:

(a) /rja, rjə, rjo, rju, ri, rje/ are changed to /ja, jə, jo, ju, i, je/ respectively when they come in the initial position of a word,

(b) /ra, ro, ru, ri, rə, rwe/ are changed to /na, no, nu, ni, nə, nwe/ respectively in the initial position.

However, in other positions /r/ can freely occur.

(4) The Sino-Korean pronunciation system did not have tense consonants because the Sino-Korean consonant system was established before the tense consonants were developed in Korean phonemic system but in recent years the Sino-Korean pronunciation system began to have tense consonants influenced by the pure Korean phonemic system which has already developed tense consonants in it.

**3-1-2.** Now, what is the relation between the initial consonant systems of modern Sino-Korean and mid-ancient Chinese? This problem will be discussed in reference to fan-ts'ie-shang-tzu's (反切上字) of kuang-yün (廣韻).

The initial consonants of mid-ancient Chinese and modern Sino-Korean are compared in the following chart according to the classificatory system of san-shih-liu-tzu-mu-t'u (三十六字母圖) of ch'ieh-yün-chih-chang-t'u (切韻指掌圖). (In the following chart (1) Chinese characters are tzu-mu (字母), (2) the sounds enclosed in [ ] are the presumed mid-ancient initial consonants of the corresponding Chinese characters, and (3) the sounds without parentheses are modern Sino-Korean pronunciations of them.)

<sup>5</sup> /ʔs, ʔk/ belong to the tense consonant series, which is different from the sonant in the mid-ancient yünshu.

	Unaspirate Surd		Aspirate Surd		Sonant		Liquid	
Velar	見 [k]	k	溪 [k']	k <sub>h</sub>	群 [g']	k	疑 [ŋ]	ϕ
Apico-Alveolar Plosive	端 [t]	t ts	透 [t']	th tsh	定 [d']	t th ts	泥 [n]	n
Dorso-Prepalatal Plosive	知 [t]	ts tsh th	徹 [t']	tsh ts	澄 [d']	ts tsh t	娘 [ɲ]	n
Bilabial	幫 [p]	p ph	滂 [p']	p <sub>ph</sub>	並 [b']	p <sub>ph</sub>	明 [m]	m
Labio-Dental	非 [f]	p <sub>ph</sub>	敷 [f']	p <sub>ph</sub>	奉 [v]	p <sub>ph</sub>	微 [m]	m
Apico-Dental	{精 [ts] 心 [s]}	ts, tsh s	清 [ts']	ts, tsh	從 [dz']	ts	斜 [z]	s
Retroflex	{照 [tɕ] 審 [ɕ]}	ts s	穿 [tɕ']	ts tsh	牀 [dz']	s	禪 [z]	s, tsh
Glottal	影 [ʔ]	ϕ	曉 [x]	h	匣 [ɣ]	h	喻 [ø]	ϕ, k
Lateral Dorso-Nasal Fricative							來 [l] 日 [ɳ]	r ϕ

Now, the tendencies of modern pronunciations of Chinese characters will be discussed one by one according to the classificatory system shown above.

(1) 見 [k]

/k/ 古公過各格兼姑佳  
居舉九俱紀几規吉詭

None of the characters belonging to this class have any other initial sound than /k/. The correspondence between [k] and /k/ of these fan-ts'ie-shang-tzu is strictly maintained. However, among the characters which are not used as fan-ts'ie-shang-tzu are some exceptions such as

/kh/ 儻夫

The fan-ts'ie-shang-tzu of them indicate that the initial sound of them is [k-], but they are pronounced as /kh-/. One may say that it is because that their shêng-fu (聲符) are the same as those of 嚕, 快, 駢 whose initial sound is /kh/. We do not know whether the initial sound /kh/ of 嚕, 快, 駢 was originated from their fan-ts'ie of mid-ancient period yünshu or if it is a result of vulgar pronunciations. But I would like to say that it is the result of vulgar pronunciations developed in Korean in view of the fact that the initial sound of the characters belonging to the [kh]-class is changed to /k/ in Sino-Korean.

(2) 溪 [k']

- /k/ 苦口康枯空恪牽謙客可  
去丘區起驅荒綺傾窺怯豈曲卿棄乞
- /h/ 楷  
壙欽詰

The initial sound of most of these fan-ts'ie-shang-tzu corresponds to /k/ and some correspond to /h/. In principle, [k'] should correspond to /kh/. The fact that [k'] corresponds to /k/ or /h/ means that these pronunciations were already established before /k/ and /kh/ split in Korean.

In other words, because the phoneme /kh/ was not developed in Korean when the [k'] sound was imported into Korean, the [k'] changed to /k/ and /h/ which are the most similar sounds to [k']. That 噲, 快, 駢 belonging to this [k'] class changed to /kh/ is a result of vulgar pronunciations in the Sino-Korean sound system. I think that the /kh/ of these three characters is not the change of mid-ancient [k']. The /h/ sound mentioned above also is usually considered to be vulgar.

(3) 群 [g']

/k/ 渠其巨求奇暨臼衢強具狂跪

[g'] corresponds to /k/ without exception. This means that any sound similar to Sino-Korean sonant changed to unaspirate surd, i.e. it means that sonant corresponding to unaspirate surd did not develop in Sino-Korean.

(4) 疑 [ŋ]

/ø/ 五吾研俄

魚語牛宜虞疑擬愚遇危玉

(5) 端 [t]

/t/ 都多當得德冬

/ts/ 丁

[t] corresponds to /t/. The “丁,” /ts/ is a palatalized sound of /t/ before /-j-/.

(6) 透 [t']

/th/ 他吐土託湯天通臺

/tsh/ 天

/tsh/ of 天 is also a palatalization of [t'].

(7) 定 [d']

/t/ 徒杜度唐同堂

/th/ 特陀

/ts/ 田地

(8) 泥 [n] → /n/

(9) 知 [t]

/ts/ 竹知張中豬微珍

/tsh/ 陟追

/t/ 遮

/th/ 卓

In most cases [t] is /ts/. /tsh/ is the aspirated form of /ts/. This sound is developed as a result of vulgar pronunciation. The tendency 'non-aspirated > aspirated' in Sino-Korean was caused by the same change in the pure Korean phonemic system. /t/ is a depalatalized form of /ts/ and /th/ is an aspirated form of this /t/. Hence, the standard pronunciation is /ts/, and /tsh, t, th/ are those which were originally vulgar pronunciations but became standard pronunciations later.

(10) 徹 [tʰ]

/tsh/ 丑敕耻癡抽

/ts/ 楮褚

Usually [tʰ] corresponds to /tsh/. The initial sounds of some characters belonging to this class correspond to /ts/. The latter is the correspondence before the aspirated sound was developed in the Korean phonemic system. Hence, the correspondence of [tʰ] to /tsh/ is a later change.

(11) 澄 [ɕʰ]

/ts/ 直除丈持柱池遲場佇

/tsh/ 治馳墜

/t/ 宅

In principle, [ɕʰ] corresponds to /ts/. /tsh/ is a later development, i.e., it is the development after aspirated sounds came into being in Korean. Hereafter, no mention will be made as to this kind of change. /t/ is that which is not palatalized in its correspondence.

(12) 幫 [p], 非 [f]

/p/ 博北補邊伯百 方甫府卑兵并分卑鄙封

/ph/ 布巴哺 必彼跛筆

(13) 滂 [pʰ], 敷 [fʰ]

/p/ 普滂譬 芳敷撫孚丕妃峯拂

/ph/ 匹披

(14) 並 [bʰ], 奉 [v]

/p/ 薄傍步部白裴 符扶房毗防婢附縛浮馮父符

/ph/ 蒲捕皮平便弼

From the examples above, we presume that the contrast between modern Sino-Korean /p/ and /ph/ is not originated from mid-ancient Chinese pronunciations but developed within the Sino-Korean pronunciation system.

(15) 明 [m], 微 [ɱ]

/m/ 莫模謨摸慕母矛

(16) 精 [ts], 照 [tɕ]

/ts/ 之職章諸旨止脂征占支資 [ts], 莊阻簪爭 [tɕ]

/tsh/ 側攤仄 [tɕʰ]

(17) 清 [tsʰ], 穿 [tɕʰ]

/ts/ 赤叱姝 [tɕʰ]

/tsh/ 昌尺充處春 [tɕʰ], 初楚測叉芻廁瘡 [tʰʰ], 倉千采蒼麤龜青醋七此親取雌且 [tsʰ]

Notice that the correspondence of [tsʰ] and [t] to /tsh/ is predominant.

(18) 從 [dzʰ], 牀 [dzʰ]

/ts/ 鋤鋤助豺削 [dzʰ], 昨徂才在藏酢前疾慈秦自匠漸情 [dzʰ]

/tsh/ 雛 [dzʰ]

/s/ 士仕 [dzʰ]

Some [dzʰ] corresponds to /s/. This is parallel to the correspondence between [z] and /s/. That some [dzʰ] changed to /s/ may have a certain connection with the change of [z] to /s/. Probably because of the phonetic similarity between [dzʰ] and [z], both of them changed to /s/ in some cases.

(19) 心 [s], 審 [ɕ]

/s/ 蘇先桑素速 息相私思斯辛司雖悉寫胥須 [s]

式書失舒施傷識賞詩始試矢釋商 [ɕ]

(20) 斜 [z], 禪 [z]

/s/ 徐似祥辭詳寺辭隨旬夕 [z], 時常市是承視署氏殊寔臣殖植賞成 [z]

/tsh/ 蜀

/tsh/ is originally a vulgar pronunciation.

(21) 影 [ʔ], 喻 [ø], 日 [ŋ]

/ø/ 烏安烟驚憂哀握於乙衣伊一央紆憶憂謁委挹 [ʔ]

于王雨爲羽云有雲遠章洵榮遠以羊余餘與弋夷子翼移悅營 [ø]

而如人汝仍兒耳 [ŋ]

All of [ʔ] [ø] and [ŋ] correspond to /ø/ together with [ŋ]

(22) 來 [l]

/r/ 盧郎落魯來洛勒賴辣練力良呂里林離連縷

[l] corresponds to /r/ without exception.

### 3-2. The vowels

#### 3-2-1. The modern Sino-Korean vowels are

(1) Simple Vowels: /i, (ü), i, u/

/e, (ö), o/

/ɛ, a/

(2) Diphthongs: /je, jə, ju/

/jɛ, ja, jo/

/wi/

/we, wə/  
 /we, wa/  
 /ij/

Since /ü/ and /ö/ are usually interchangeable with /wi/ and /we/ respectively, they will not be discussed separately from /wi/ and /we/.

**3-2-2.** There is no essential change between the 15C. Sino-Korean vowel system and the modern Sino-Korean vowel system because the vowel system of 15C., as it is, is handed down up to the present but some revisions in the standard pronunciations are made in ok-pheons as follows:

- (1) /ʌ/ is revised as /a/,
- (2) /ʌj/ is revised as /ɛ/,
- (3) /je, ja, jə, jo, ju/ after /s, ts, tsh/ are revised as /e, a, ə, o, u/ respectively, i.e., /j/ after the above consonants are dropped.
- (4) /kje, rje, mje, phje, hje/ remained as before,
- (5) /i/ after /m, p, ph/ is revised as /u/, and
- (6) /ij/ after the consonants except /ø, h/ are revised as /i/.

**3-2-3.** The vowels except those pointed out above are the same as the vowels of 15C. Hence, I will just show the distribution of the various vowels as follows:

GROUP (攝)	DIVISION (等)	YŪN (韻)	MID-ANCIENT CHINESE (中古音)	MODERN SINO-KOREAN	
通	1	東 冬	-uŋ -uoŋ	-oŋ	
	3	東 鍾	-iuŋ -iuoŋ	-uŋ (-juŋ) -oŋ (-joŋ)	
江	2	江	-ɔŋ	-aŋ	
止	3	支	-ie -iě	-a -i	(iue) > /-wi/ (iue) > /-ju/
		脂	-iei -iěi	-a -i	(iuei) > /-wi/ (iuei) > /-ju/
		之	-i	-i	
		微	-iəi	-ij	(iuei) > /-wi/
遇	1	模	-uo	-o	
	3	魚	-io -iuo	-ə (-jə) -u (-ju)	

蟹	1	哈 灰 泰	-Ai -uAi -ai -uai	-ε -we (-oi) -ε -we (-oi)	
	2	皆 快 佳 夬	-ɐi -uɐi -æi -uæi -ai -uai	-ε -we (-oi) -ε -we -ε -we	
	3	祭  廢	-iæi} -iɛi} -iuæi} -iuɛi} -iei -iuɐi	-je  -je -je -je	
	4	齊	-jei -juɐi	-je -je	
臻	1	痕 魂	-ən -uən	-in -on	
	2	臻	-(i)en	-in	
	3	眞 諄 欣 文	-ien} -iɛn} -iuən} -iuɛn} -iən -iuən	-in -un -jun -in -un	
山	1	寒 桓	-an -uan	-an -wan	
	2	刪  山	-an -uan -æn -uæn	-an -wan -an -wan	
	3	仙  元	-iæn} -iɛn} -iuæn} -iuɛn} -iən -iuən	-jən  -jən -an -wən	

	4	先	-jen -juɛn	-jɛn -jɛn	
效	1	豪	-au	-o	
	2	爻	-au	-o -jo	
	3	宵	-iæu -iæu	-jo	(iʊæu)>/-jo/
	4	蕭	-jeu	-jo	
果	1	歌(戈)	-ɑ -uɑ	-a -wa	
	3	戈	-ia -iua	-ja -ja	
假	2	麻	-a -ua	-a -wa	
	3	麻	-ia	-ja	
宕	1	唐	-aŋ -uaŋ	-aŋ -waŋ	
	3	陽	-iaŋ -iuaŋ	-aŋ -jaŋ -waŋ	
梗	2	庚	-ɛŋ -uɛŋ	-ɛŋ -wɛŋ	
		耕	-æŋ -uæŋ	{ -ɛŋ -jɛŋ -wɛŋ	
	3	庚	-iɛŋ -iuɛŋ	-jɛŋ -jɛŋ	
		清	-iɛŋ -iuɛŋ	-jɛŋ -jɛŋ	
曾	1	登	-ɛŋ -uɛŋ	-iŋ -wɛŋ	
	3	蒸職	-iɛŋ -iuək	-iŋ -jək	



流	1	侯	-u	-u	
	3	尤 幽	-iu -iəu	-u -ju	
咸	1	覃 談	-Am -am	-am	
	2	咸 銜	-əm -am		
	3	鹽 嚴 凡	-iæm -iem -iuem	-əm -əm	
深	3	侵	-iem -iēm	-im -jm	

3-2-4. As seen above, the modern Sino-Korean vowel system parallels to that of ch'ieh-yŭn (切韻) except in the points pointed below.

(1) The contrast between k'ai-k'eu (開口) and ho-k'eu (合口) is well kept in modern Sino-Korean with the following exceptions.

(a) Since the medial vowel /-w-/ immediately after bilabial consonants is absorbed to the preceeding bilabial consonants, the contrast between k'ai-k'eu and ho-k'eu is lost in this position.

(b) The contrast between /-jw-/ of ho-k'eu and /-j-/ of k'ai-k'eu is lost.

(2) The contrasts between teng-yŭn (等韻)'s are kept with the following exceptions:

(a) The contrast between 一等 and 二等 is lost. (But the distinction between 一等 and 三等 is well kept.)

(b) The medial vowel /-i-/ combined with a following principal vowel becomes a simple vowel. In this case the new vowel is a higher vowel than 一等 of the principal vowel.

(c) The medial vowel /-j-/ of 三等 and 四等 combined with a following principal vowel does not become a simple vowel.

With the changes shown above the modern Sino-Korean vowel system is a little simpler than that of the mid-ancient period.

(3) The following are the correspondences between the modern Sino-Korean syllabic vowels and the mid-ancient Chinese syllabic vowels.

Modern Sino-Korean	Mid-Ancient Chinese
i (iɿ)	i, ie, iě, iēi
ɨ	ə, iə, ie, iəi
ə	io, ie, iue,
ɛ	Ai, ai, vi, æi, ai, v, æ,

a	ɔ, ɑ, a, æ, ia, A, ʌ, ɐ,
u	u, iu, iue, iuə,
o	u, uo, iuo, uə, au, au
je (jɛ, e)	iaɪ, jei, iuæi, jui, iæi, iei, iuæi, iuei
je	iæ, iæ̃, iuæ, æ, je, jue, iæ
ja	ia, iua, ia
ju	iuě, iuěi, iuě, iəu
jo	iæu, iæ̃u, iuæu, jəu
wi	iue, ieu, iuəi
we	uAi, uai, uvi, uɐ, uæ, uə
wə	iue
wɛ	uæi, uai
wa	ua, uæ, ua

### 3-3. The final vowel or consonant and tone

3-3-1. The final vowel or consonant can be classified by the following three types:

- A. /ɔ/ (zero)
- B. /-ŋ, -n, -m/
- C. /-k, -r, -p/

To these three types no change took place since the middle age, and they still adhere to the system of yünshu of ch'ieh-yün kind. However, there is need to point out the following facts as characteristics of the Korean language:

- (a) The mid-ancient sound of Type "A" are:

Yün-ching (韻鏡) /-ɔ, -i, -u/

Ch'ieh-yün-chih-chang-t'u (切韻指掌圖) /-ɔ, -i, -u/

Ku-chin-yün-huei-chü-yao (古今韻會舉要) /-ɔ/

As stated above, the sounds can be divided into three forms /-ɔ/, /-i/, /-u/ and the Sino-Korean sound deals with /-i/ and /-u/ and principal vowel together. Accordingly they are regarded as identical with principal vowel (核母) but not dealt with by the separate final vowel or consonant. The final vowels /-i, -u/, therefore, pertain to the /ɔ/ system.

(b) The /-r/ sound of Type "C" is a changed form of the /-t/ sound of the mid-ancient period. The period during which the change /-t/ > /-r/ took place is not exactly known, but in literature of 8 c. we find evidences of this change. Type "C" which is called Ju-shêng (入聲) has a momentary sound value.

In Sino-Korean sound there is no such sound but there exists a contrast between Type "B" and Type "C" only in the syllabic forms.

3-3-2. Up to the present, the standard pronunciation system of ok-pheons adheres to the tone system which is distinguished by four tones (四聲). Now, this tone system is only inheriting the yünshu system after the mid-ancient period and it is not actually put to use. As the distinction by pitch is impossible to be described in the modern

standard Korean, the four tone system required for the standard pronunciation cannot be maintained in the Sino-Korean either. The tone of Chinese pronunciation appears as long and short in Sino-Korean according to the phenomenon envisaged in the pure Korean. No satisfactory description of mutual relations between four tones and the long and short sounds was given, but in general the present-day Korean dictionaries show the following:<sup>6</sup>

Low Level Tone (平) .....	Short Vowel
High Rising Tone (上) .....	Long Vowel
High Level Tone (去) .....	Short Vowel

#### IV. THE SYSTEM OF THE VULGAR PRONUNCIATION

4-1. The Sino-Korean vulgar pronunciations vary so much according to ok-pheons. To explain this problem with some examples, ok-pheons should be compared with each other. But for convenience' sake in this chapter a study is made of the vulgar pronunciation system of MS. only.

The vulgar pronunciations can be divided into the three types according to their origins:

- Type I. .... Analogized by the identity of shêng-fu (聲符)
- Type II. .... Vulgarized by the change in the pure Korean phonemic system,
- Type III. .... Considered as vulgarized by the difference in stages when the standard pronunciation and the corresponding vulgar pronunciation were imported into Korea.

#### 4-2. Type I.

CLASS OF CHINESE CHARACTERS	STANDARD > VULGAR	ANALOGIZED CHARACTERS
叫	kjo > kju	蚪糾起
咽	jən (jər) > in	因
堊	ak > a	亞
娶	tshu > tshwi	取
琅	in > kan	良
玲	ap > hap	合
翊	hu > u	羽
減	kam > ham	咸 . . . etc.

Most so-called vulgar pronunciations belong to Type I, which can be regarded as incorrectly pronounced by the identity of the analogized character and its shêng-fu. As regards this type, the stage in which the analogized characters were imported and

<sup>6</sup> Cf. Nam, Kwang-woo (南廣祐): "A study of the change in the tone of Sino-Korean," *Tongyang Munhwa*, Vol. 6 & 7 (Yeongnam University, Taegu, Korea), p. 371.

their sound value can be said to be identical with each other, so they can be treated equally in view of the formation.

#### 4-3. Type II.

The change that has taken place from the Sino-Korean pronunciation of the Middle ages to the modern Sino-Korean pronunciation is so much paralleled with the sound change of the pure Korean that it cannot be concretely explained herein. But the below-mentioned vulgar pronunciations are apart from the standard pronunciation system:

- (1) Non-aspirated > Aspirated, e.g.
  - a) /p/ > /ph/ 幅 pok > phok, pjək > phip  
                                   逼 pjək > phip  
                                   族 pi > phi
  - b) /ts/ > /tsh/ 鐵 tsok > tshok
- (2) Lenis > Fortis, e.g.
  - a) /s/ > /ʔs/ 氏 si > ʔsi
- (3) Avoidance of certain sounds, e.g.
  - /rju/ > /ru/ 累糸綫腰襪
  - /phju/ > /phjo/ 彪
  - /rwi/ > /ru/ 淚
- (4) Dental + /i/ > Dental + /i/, e.g.
  - /tsip/ > /tsip/ 汁
  - /tshik/ > /tshik/ 惻

As for the stage of the Chinese pronunciation itself, there is no difference between the foregoing pattern and the standard pronunciation.

#### 4-4. Type III.

The most essential characteristics of the vulgar pronunciations can be found in Type III. Accordingly this type is characterized by various complicated aspects in its formation. Shown below are some forms divided by their substance to review it in detail. (In the following the forms on the left hand side are standard forms and the forms on the right hand side are vulgar forms.)

- (1) /-φ/ > /-k/ tshu > tshuk 丑  
                                   tsha > tsak 蛇

It seems that the vulgar forms are older ones than the standard forms.

- (2) /φ-/ > /-w/ tsa > tswa 左  
                                   han > wan 狼

Here also the ho-k'eu's are probably older forms than k'ai-k'eu's and /wan/ might have changed from /ŋwan/.

- (3) /-ㄲ/ > /-j/ tshu > tshwj 就臭趣

kwa > kwaj > kwe 戈  
 sa > saj > se 璽  
 swa > swaj > swe 鎖  
 ma > maj > me 罵  
 no > noj > nwe 惱  
 jə > jəj > je 預警

## (4) /tsh-/ &gt; /th-/

tsha > tha 吒訖  
 tshə > thə 鷹  
 tshak > thak 敬越  
 tsha > thak 蛇

The forms (3) and (4) above show that the vulgar forms are much closer to older forms.

(5) An optional change takes place between /k-/ and /h-/. But the change of /k-/ and /h-/ is not seen in all /k-/ and /h-/ class characters but in the specific characters. So, when we make a more detailed study of it, we might find that in some /k-/ class characters /k-/ and /h-/ were optionally interchanged and in other /k-/ class characters there was no such change. It seems that at the time when they were imported there were two classes, /k/-class and /X/-class, and /X/-class was divided into /k/-class and /h/-class later.

The following are the examples of “/k-/ > /h-/” or “/h-/ > /k-/.”

/kɛ/ > /hɛ/	咳敵咳資歐隋	/kar/ > /hər/	漱
/kam/ > /ham/	械	/hər/ > /kar/	蝎
/hwe/ > /kwe/	槐	/kir/ > /hir/	詰
/hwen/ > /kwen/	轟鎬鎬	/hwe/ > /kwe/	闌
/kjək/ > /hjək/	革		

## (6) /ə/ &gt; /a/ or /a/ &gt; /ə/

/tshəm/ > /tsham/	澹	/ar/ > /ər/	孳
/kar/ > /hər/	漱	/ər/ > /ar/	蝎

## (7) /o/ &gt; /u/ or /u/ &gt; /o/

/po/ > /pu/	埠	/so/ > /su/	憐
/mu/ > /mo/	悻謀謀	/ko/ > /ku/	榕

(8) The examples of the change between /s-/ and /ts-/ already appear in yünshu and teng-yün-t'u (等韻圖), this change comes between 從 and 邪, and 牀 and 禪. According to the Sino-Korean pronunciations of the Middle Ages, 從 and 牀 are replaced by /s-/ and 邪 and 禪 by /ts-/. The reason for this change is presumed to be that the formation of Sino-Korean pronunciation belonging to this class took place before the separation of 從, 牀 and 邪, 禪 in China.

/tso/ > /so/	召	/so/ > /tso/	臬譟
--------------	---	--------------	----

/tsha/ > /sa/ 瘡                      /tshak/ > /sak/ 稽  
 /sa/ > /tsa/ 撞                      /tse/ > /si/ 豺

/tsh/ came into being influenced by the change /ts-/ > /tsh-/ in pure Korean.

(9) The following examples are believed to fall under the type which still remain as they did before the aspirated sounds were developed in pure Korean.

/tshim/ > /tsim/ 斟                      /tshak/ > /tsak/ 濤  
 /tshəp/ > /tsəp/ 簾

(10) The following examples show the tendencies of change which occurred when the Chinese sounds were transplanted into the Korean phonemic system.

/k-/ > /ϕ-/ e.g.      kip > ip 湑曝  
                                  ku > u 隅

Probably they were originated from /ŋ-/.

/-εŋ/ > /-aŋ/ e.g.      mεŋ > maŋ 羸

The /mεŋ/ is originated from /maŋ/, /maŋ/ is the form which is changed from /maŋ/.

/ij/ > /e/  
 /e/ originated from /əj/, and /əj/ is a substitute of /ij/  
 /tsəj/ > /tse/ → /tsaj/ > /tse/ 賁

It seems that this change took place after the changes /əj/ > /e/ and /aj/ > /ε/ were completed in recent years.

/mi/ > /mε/ 魅魃  
 /mε/ is originated from /maj/ and /mi/ is a substitute of /maj/.  
 /tsjə/ → /tsəj/ > (/tse/)

This kind of change existed even in an earlier stage.

/-aj/ > /-ε/ → /jəj/ > (/je/)  
 kε > kje 階  
 hε > hje 鞞

This change took place together with the foregoing change.

/sjo/ → /soj/ > (/swe/) 釧

The reason for this change is not known.

/-j/ > /ϕ/  
 kaj > kε → ka 佳

Here standard form is older than vulgar form.

/mo/ > /mjo/ 墓

Here vulgar form is older than standard form.

**4-5.** In the foregoing examples we looked at the general tendency of vulgar pronunciations, but Type III, in general, expressed itself in an older form than the standard pronunciations.

In view of this fact, it is certain that in the Sino-Korean system there exists a Chinese sound system which was imported at a different stage, and not the standard system based on the yünshu system of mid-ancient period. But with the exception of a small number of isolated examples, this type can also be explained according to the mid-ancient phonemic system.

## V. CONCLUSION

**5-1.** There are the following three types in the modern Sino-Korean pronunciations:

- (1) Standard Pronunciation
- (2) Vulgar Pronunciation
- (3) The pronunciations of the words which were originally Sino-Korean but now completely absorbed into Korean and not considered to be loan words.

**5-2.** The standard pronunciation system was formed, generally, based on the system of yünshu after the mid-ancient period. However, the following differences can be found:

(1) The initial does not contain the sonant but it contains the aspirate surd, which is conformed not by the mid-ancient sound system but by the sound change of Korean. Hence, the contrast between the unaspirate surd and the aspirate surd has a wayward relation- ship.

(2) The system of the vowel is distinguished by k'ai-ho (開合) and t'eng-yün (等韻) in the mid-ancient period. This means that the Sino-Korean pronunciation was formed after the division of the k'ai-ho and t'en-yün.

(3) The system of final consonant or vowels is also similar to that in the mid-ancient period. The only difference between them is the change of /-t/ to /-r/, and its characteristic consists in the point that the final sounds of / $\phi$ , i, u/ are included in the vowel.

(4) The tone is expressed on the basis of that in the mid-ancient period but in actuality it is replaced by the long and short sounds.

**5-3.** The vulgar pronunciations are classified by Type I, Type II and Type III in §4. Type I and Type II are considered to be the same as the standard pronunciation system in their stages of formation but Type III is thought to be different from that in its stage of formation. This also can be explained as the mid-ancient sound system in essence.

# REMARKS ON MEANING

YASUTOSHI YUKAWA

## Introduction

This paper is an attempt to make clear, although tentatively, the nature of the essentials of meaning and to establish a method of studying meaning. Though much interest has been given to meaning up to the present, linguists have often neglected its study, and even those who emphasized the importance of it did not, I believe, explain many phenomena of meaning satisfactorily.

Generally speaking, we can find two opposing tendencies. One is the tendency to exclude the study of meaning from the domain of linguistics, regarding meaning as something extra-linguistic, and the other is the tendency to bring even truly extra-linguistic facts, that is, data which do not relate to meaning, into the domain of meaning.

Though one of the reasons for this is the one-sidedness of the theory which underlies such attitudes toward meaning, a more important reason is a reflection of the fact that the place of meaning is truly near the borderline between things intra-linguistic and things extra-linguistic. In treating meaning, we must therefore emphasize research on both aspects of the problem: the way in which meaning depends on extra-linguistic factors, and the way in which it is independent of such factors.

The above-mentioned attitudes toward meaning, though apparently opposed to each other, are in fact quite similar in that both neglect research in this area.

Let us confine the discussion to the problem of the meaning of the so-called "free forms" or words. This will help us to avoid unnecessary complications at this point.

## § 1. What is meaning?

### § 1-1

An utterance as a whole expresses the speaker's thought, wish, or judgement, etc., but it is not only the utterance as a whole which expresses such a thing. Parts of the utterance also express something, and these join to constitute the whole thought, etc. In general, any utterance can be divided into such parts.

The things indicated by such parts differ greatly according to the utterance, but, among such parts, we can find those which we recognize as "the same." In other words, some parts of utterances have characteristics, phonological and semantic, in



common with some parts of other utterances, or even of the same utterance. Some such parts are called words.

"The same" word, as such, naturally presupposes a generality<sup>1</sup> which is included in all the individual indications. (Here, let us define "indication" as an event in which a word indicates something.) This generality and the concept that is a reflection of it are two forms in which meaning "exists." We may take meaning as either existing as such a generality or as such a concept, because language itself has two aspects, namely, it exists apart from the consciousness of individual persons and it can exist only supported by the consciousness of the "masse parlante." Therefore meaning exists as a generality included in individual indications from the viewpoint of an individual person who does not know the language as yet, and as a concept from the viewpoint of those who speak it.

But, although I believe that these remarks are very fundamental, they cannot explain an even more fundamental fact. Let us consider the following problem.

The above-mentioned generality which is included in individual indications has two underlying characteristics. One is that the word always indicates something, i.e., there always exists a relation of indication, and the other is that such indicated things all relate to the same word.

Fig. 1

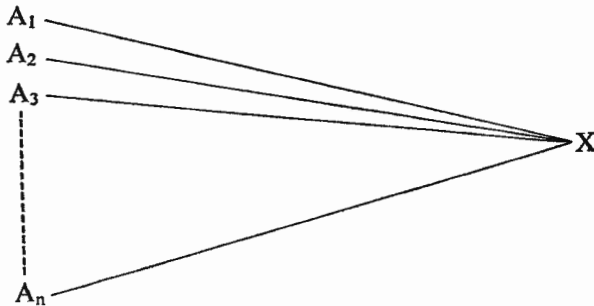


Fig. 1 shows that a given word  $X$  indicates things labelled  $A_i$  ( $1 < i < n$ ,  $n$  can be infinite.) for each. So far we have only explained that there exist lines of which one end is  $A_i$  for every  $i$  and that the other end of all these lines is  $X$ . Here, the reason why one end of these lines is  $X$  is not explained. This can be explained only if we consider a relation which has not been touched upon so far. We must try to find the relation which exists between the things  $A_1, A_2, \dots, A_n$ , and which make it possible for  $A_1, \dots, A_n$  to be indicated by the same word  $X$ .

<sup>1</sup> In this paper, "generality" means a totality of common properties. "Individuality" means a totality of the properties which an individual thing or phenomenon has. The reader will find that I am speaking about the generality included in individual indications here, but that, in §1-2, the generality included in individual things, movements, or phenomena, etc., is discussed.

## § 1-2

Let us consider the meaning of the Japanese word *inu* (dog). We need to find the factor which is relevant to the fact that *inu* refers to some animals. Each individual dog is different from all others in many respects. But it does not suffice for us to recognize the differences. We must take note of the many kinds and grades of generalities which show through these individualities or are included in them. Let us suppose that a given dog is a fierce dog, a male dog, and a watchdog. In this case, this individual dog includes the generalities 'fierce dog,' 'male dog,' and 'watchdog,' and in addition, the generalities 'animal,' 'living thing' and 'object,' etc.<sup>2</sup>

Such generalities as these exist infinitely in the real world only through (or included in) individualities, and any individuality can exist only if it is connected to some generality.

Fig. 2

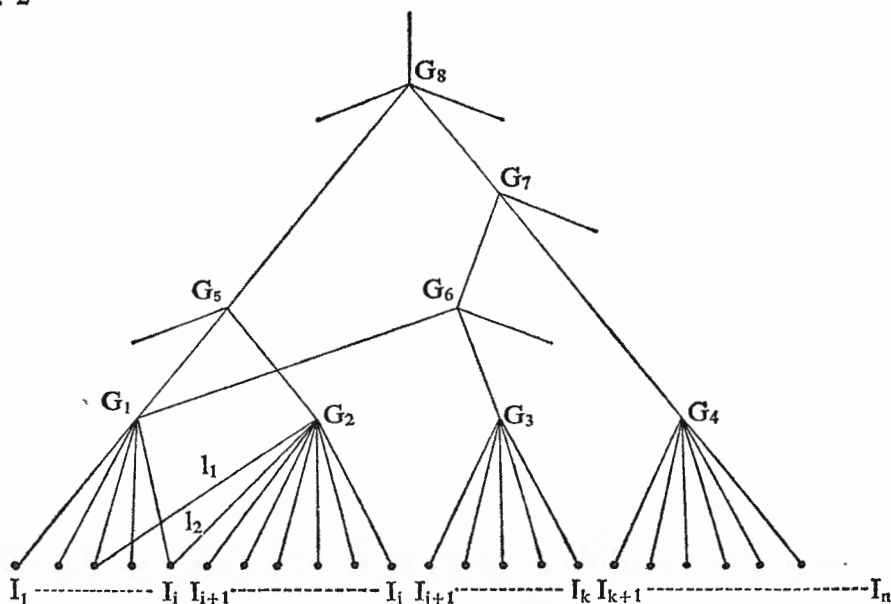


Fig. 2 is a much simplified illustration of the way in which individualities and generalities exist. For each  $x$ ,  $I_x$  is an individuality which is different from  $I_y$  if  $x \neq y$ , and  $G_x$  is a generality which is different from  $G_y$  if  $x \neq y$ . If  $G_x$  has a lower position in the diagram than  $G_y$ , we shall say that  $G_x$  is a lower generality and  $G_y$  a higher one, and if such  $G_x$  and  $G_y$  are connected by a line or lines which never change direction upwards or downwards, we shall say that  $G_x$  is inferior to  $G_y$ , or that  $G_y$  is superior to  $G_x$ . This figure does not mean that  $G_1, \dots, G_4$  are the lowest generalities. Notice the two lines labelled  $l_1$  and  $l_2$ . Here we find two individualities, one of which is label-

<sup>2</sup> See note 1. "The generality 'X'" means a totality of properties common to all X's.

led  $I_i$  that are subordinate to  $G_1$  as well as  $G_2$ . In this case, we can speak of an other generality which is inferior to  $G_1$  and  $G_2$ . We may say the same thing between  $G_1$  and  $G_3$ , or more generally, between  $G_x$  and  $G_y$  ( $x=y$ ) for each  $x$  and  $y$ . In addition, we may be able to find another generality between, e.g.,  $G_1$  and  $G_5$ .

Though this situation is very complex, we notice at least two definite facts. One is that there are two generalities ( $G_x$  and  $G_y$ ) such that  $G_x$  is neither superior nor inferior to  $G_y$ . Let us say, in this case, that  $G_x$  and  $G_y$  belong to two different sorts. The other is that, as we can conclude easily from this figure, there are two generalities ( $G_x$  and  $G_y$ ) such that  $G_x$  is superior or inferior to  $G_y$ . Let us say, in this case, that they are of different grades. Hereafter, we shall call a generality a sort and a grade of generality when necessary.

Various generalities are reflected in our consciousness, and form many concepts which correspond to them respectively. If, to some generalities, some phonological shapes are associated as a social habit, these concepts of generalities become meanings. It can be seen from this why, in Fig. 1, all the lines have  $A_1, \dots, A_n$  at one end and  $X$  at the other.

What we have discussed may be said even when we consider, instead of things such as 'dog', etc., movements of things, attributes of things, relations of things, and so on. This makes it possible to explain the meanings of verbs, adjectives, and words such as the Japanese postpositions, the English prepositions, and so on.

It should be pointed out that, from the point of view of linguistic meaning, it does not matter whether any things, etc., correspond to the concept which is the meaning of a given word, as long as there is that concept in the society. Thus the concept which is the meaning of the Japanese word *yūrei* (ghost) has no reality. But, even in this case, it can be said that such a concept has a kind of generality corresponding to it: we can think of ghosts of various kinds.

This fact, i.e., that a concept without any corresponding reality can be the meaning of a word, suggests to us an essential characteristic of language: it is not on the real world but on the consciousness of human beings that language depends directly. Language depends on the real world indirectly, that is, through the consciousness. In fact, this seems to be the same thing as the fact that language cannot exist unless it is supported by the consciousness of the "masse parlante." (See §1-1.)

It is necessary for language as a tool of communication to be able to express all thoughts and wishes, etc., and so language must include not only ways of expressing things and movements, etc., of the real world, but also ways of expressing the speaker's feelings, etc. Among words corresponding to the latter necessity are interjections and the Japanese interjective postpositions. I think it preferable to handle this sort of words differently, because they seem to be very peripheral from the point of view of the language system. So, let us exclude the meanings of these words from consideration in this paper.

In addition, we must make clear some fundamental points about the fact that general-

ities reflected in our consciousness form concepts, some of which are the meanings of words. First, even if a thing or movement, etc., is one and the same, its relation to each person is different. This is neglected in some cases and such a thing or movement, etc., is treated as one and the same, but in some cases this fact affects the forming of concepts and, consequently, linguistic facts. Consider, for example, pronouns and personal endings of verbs, etc. We can take as another such factor the fact that people can conceptualize differently one and the same thing or movement, etc., in accordance with the difference in social situations. Consider, e.g., honorific words and differences of style, etc. Moreover, we can conceptualize differently one and the same thing or movement, etc., and have different words in accordance with the difference in our attitude to it. Consider, e.g., pejorative words. We must therefore realize that concepts which are the meanings of words are those which reflect not only generalities which are purely objective but also those which are partially "subjective."

Finally, we must point out the fact that the meaning of a proper noun corresponds not to a generality but to an individuality. In other words, a concept which is the meaning of a word can be formed as a reflection of an individuality as well as of a generality.

Taking into consideration these facts, we can define the meaning of a word as follows; a concept which is a reflection of an individuality or of a sort and a grade of generality and which is associated as a social habit with a given phonological shape which is the phonological side of the word.

It is very important to realize the fact that, first, linguistic meaning relies very much upon the real world through consciousness, and, second, not all concepts become linguistic meanings, i.e., what concepts are meanings of words depends on the given language. The latter fact constitutes the independence of meaning from the real world.

### § 1-3

Next, we must consider what sort of concepts which reflect individualities or generalities become the meanings of words. Of course, this depends on the language, but some laws (or, more exactly, tendencies) can be pointed out.

The first is that the concepts of individuality or generality which clearly stand out are ready to become meaning, given a phonological shape for each, and the second is that the concepts of individuality or generality which are important in people's lives tend to become meanings. For example, those animals which are similar regardless of sex and in which this distinction is useless to man tend to be referred to by one word, but if this is not so, there tends to be two words distinguishing the male and female sexes.

Of course, these tendencies are not absolute, because there cannot be definite boundaries of such a nature among individualities or generalities, and because, even if there is no word for a given generality, we can express this by using combinations of two or more words without any inconvenience, at least at the time.

These two tendencies have their origin in extra-linguistic facts. We can suppose one other tendency, which is intra-linguistic: that a concept which corresponds to a generality which has no generality referred to by a word near it tends to be given a phonological shape and become meaning.

These remarks explain some important facts. Let us consider, for example, the problem of vocabulary from the viewpoint of similarity and difference between languages. This is also the problem of possibility and impossibility of translation. If we compare the meaning of a word in a certain language with that of a word which has a "similar" meaning in another language, we find that these two meanings are never completely the same. The reason for this fact is that the generality to which a word corresponds depends on the language. Nevertheless, if we consider why we can find words with "similar" meaning in two different languages, we conclude that the reason for this is that the real world is fundamentally the same for any language speaking society, and that the tendencies which determine what concepts are made meanings of words are the same. It can also be seen from these remarks that complete translation is impossible, but that, if we do not demand complete exactness, translation is possible and very useful.

#### § 1-4

Let us consider now the problem of the relation between a language and concept-forming in an individual person born in the language speaking society. At first, a child has no concepts at all. It has the ability to make external things reflected in its consciousness. By this ability it grows up and gradually forms concepts. This process is possible because concepts are fundamentally the reflection of generalities which exist in the real world.

However, if language did not exist, this process would be extremely difficult. A child is taught a word by its elders, who usually point to the things referred to by the word at the same time. This sort of act is repeated for the same word but with different (from the point of view of individuality) things pointed at. Gradually the generality of indication mentioned in §1-1 enables a concept to be formed in the consciousness of the child. Incidentally, it might be pointed out that the concepts formed in this way which correspond to generalities of indication are, at the same time, those that reflect the generalities existing in the real world, because the meaning of a word corresponds, as a rule, to a generality in the real world (see §1-2).

Thus we can say that language helps man to form concepts and that this is because language is made to be able to do this, namely, because language relies on the real world. But this neither denies that concepts formed in this way (i.e., meanings of words) are different from language to language, nor that there are other concepts which have no corresponding words. Of course, concepts with corresponding words are much firmer than those without them in the language speaking society.

### § 1-5

In considering meaning, we have been handling things, movements, attributes and relations from the same point of view so far. But there are some important phenomena that cannot be explained from this viewpoint. Let us refer to one of such phenomena.

As for things, our concepts are very clear and, in general, words corresponding to them (i.e., nouns) are very large in number in any language. In addition, there are even words which correspond to individualities as well as those which correspond to generalities. But how about movements, attributes and, especially, relations? For example, words that correspond to relations (by this I mean words such as the English prepositions and the Japanese postpositions which adhere to nouns, and so on) are very small in number. What makes this difference? This is a very interesting problem.

Individual relations that show themselves in various ways in the real world are different from each other, but, in a sense, very similar. In other words, the state of the existence of generalities of relations is extremely complex, and yet language must have words that can correspond to any relation. In this case, is it necessary that language have words which correspond to low grade generalities, in other words, that it have many such words?

First, no matter how many such words a language has (in other words, no matter how low the grade of generalities which have corresponding words is), they will not be sufficient to express the complicated state of relations. Second, if we think of things and/or movements, we can predict, to some extent, the relations which can exist between them. This means that there is no need for a language to have many such words which correspond to low grade generalities.

Thus there is a clear tendency that there are relatively few words in the field of relations and these words correspond to high grade generalities. This is why the meanings of such words seem to be very vague. Nevertheless, this does not mean that the study of the meanings of such words is meaningless. It only means that the study of their meanings is, in a sense, difficult compared to other kinds of words. We must say that, the more difficult it seems, the more important this study is, and that it will contribute very much to the study of people's thought as well as of language.

## § 2. Meaning and function

### § 2-1

We must make clear the distinction and interrelation between meaning and function of words. Here function means the rôle played by the word, or, more concretely, the position in which the word can stand. It will be very clear that meaning and function defined in this way are two different things. Nevertheless, there has been a tendency to confuse meaning with something like function as defined above. Meaning is a concept corresponding to a sort and a grade of generality or an individuality, but function is purely intra-linguistic and related to the position in the language occupied by

the word. We must never confuse these two. It is not that meaning and function are perfectly independent, however. We can notice the interrelation between them. First, there is a determination<sup>3</sup> of function by meaning, and, second, an opposite determination. The first is the principal one as compared to the second. Let us consider these two determinations.

## § 2-2

It can be easily understood that the function of a word is determined by its meaning. For example, the position where the word *inu* can stand depends on its meaning. But what is it that characterizes this determination?

Suppose that a class A which has  $a_1, a_2, \dots, a_m$  as members determines another class B which has  $b_1, b_2, \dots, b_m$  as members, and  $b_i$  corresponds to  $a_i$  ( $1 < i < m$ ), or in other words, there is a determination from the character of  $a_i$  to that of  $b_i$ . (See Fig. 3.)

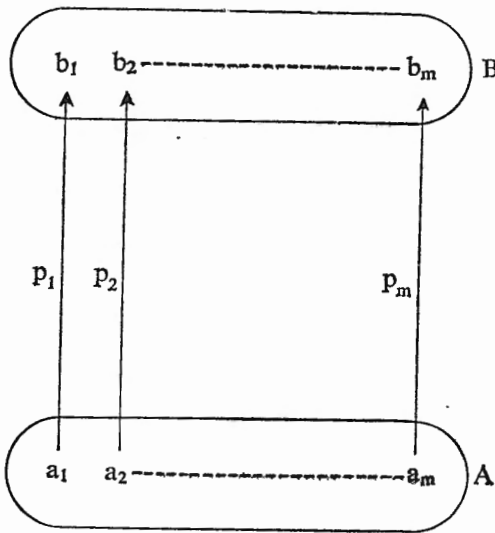


Fig. 3

The vertical line  $p_i$  for each  $i$  means that the character of  $a_i$  determines that of  $b_i$ .

Any class has its own character which restricts the characteristics of its members (by virtue of which we call it a class). In this case, the character of  $b_i$  depends on that of B as a class as well as on that of  $a_i$ . If the restriction of the character of  $b_i$  by that of B is very severe, the result is that the determination from  $a_i$  to  $b_i$  will not be so strict.

Function is, according to our definition, the position which a word can take in the sentences of the language. This can be described in regard to the words which constitute the context in which the word can stand. A language has many, though not an

<sup>3</sup> In this paper, to "determine" means to have influence upon (some other thing). However, we can also say "A determines B" in such a case as B can exist only supported by A. "Determination of B by A" and "determination from A to B" are synonymous, and both express the fact that A determines B in the sense just mentioned.

infinite number of, words, and the possible contexts are quite large in number, so the restriction of the character of the function of a word by that of function as a class is not so severe. And we cannot imagine any other restriction than that referred to here from the character of function as a class to that of the function of a word. Consequently, the determination from the character of the meaning of a word to that of its function (briefly, the determination from meaning to function) is fundamentally quite strict. This remark provides a very important conclusion about the method of studying meaning. (See §3-4.)

### § 2-3

Some part of function is called "grammatical function." Now, let us consider the determination from meaning to grammatical function.

Words with common grammatical function constitute a grammatical category. The number of these categories is quite small in any language, which is a result of the fact that language is a system of signs.

This means that the restriction of the character of the grammatical function of a word by the character of grammatical function as a class is quite severe; a word must belong to one of a small number of categories. Therefore the determination from meaning to grammatical function (or more accurately, the determination from the character of the meaning of a word to that of its grammatical function) is not strict, and grammatical function is more independent of meaning than the other part of function. (cf. §2-4.) This helps us understand why it is dangerous to describe grammatical function or category from the viewpoint of meaning alone.

### § 2-4

Next, let us sketch the determination from function to meaning. First, notice that a child at first learns a word and its meaning without knowing its function and that we can suppose the meaning of a word fairly well without referring to its function. This means, roughly speaking, that, while function cannot be without meaning, the reverse is not true. Of course, function determines meaning in some way, but this determination is a secondary one in comparison with the opposite determination. Then, of what sort is this determination? In brief, the essence of this determination rests in that the function of a word fixes its meaning. Meaning is made firm and maintained by virtue of function.

All this is about function in general. But grammatical function requires a slightly different point of view. As said above, grammatical function is fairly independent of meaning. This must have some particular significance in the determination from function to meaning.

When we think of the meaning of a word belonging to the category "verb," we also feel that it is a verb. This, of course, partly depends on the fact that movements, and not things, are indicated by the word, i.e., on the status of the real world, but this is



not all.

Consider, for example, the following Japanese words;

hanasu: to talk (verb)

hanasi: a talk (noun)

These correspond to fairly similar realities, but one is a verb and the other is a noun, and we feel so when thinking about their meanings. In addition, it seems in this case that the existence of these two words, especially of *hanasi*, depends in some way on the state of grammatical categories. Notice that the reality indicated by the word *hanasi* is not a thing, to whose generality the meaning of a noun corresponds in general, but is a movement, and furthermore, a movement which occupies a fairly long time. (A movement which does not do this seems to tend to be treated as a noun. Consider *oto* (sound) for example.)

It seems to us that, here, the existence of noun as a grammatical category (a part of the state of grammatical categories and grammatical functions of the language) determines, in some way, even the existence of the word *hanasi*, and, as a natural consequence, its meaning.

Here, we can conclude that the determination from grammatical function to meaning is the strongest part of the determination from function in general to meaning.

### § 3. The study of meaning

#### § 3-1

If we suppose, as mentioned above, that meaning is a concept which reflects a sort and a grade of generality or an individuality, then, what is, in fact, the study of meaning? What do we have to do when we study meaning? As a theoretical result of the discussion so far, we can say that we must make clear the generality or individuality which is the basis of the meaning of the word in question. In order to do so, we can theoretically propose the following methods.

First, we can give the lower generalities which are inferior to the generality in question. In this case, the more similar the sum of the individualities which are subordinate to these generalities is to the sum of those subordinate to the generality in question, the more exact the description is. This method is often called "illustration."

Second, we can give a generality superior to the generality in question and a generality inferior to that in question. In this case, the nearer these generalities are to that in question, the more exact the description is.

Third, we can give two or more generalities superior to that in question. In this case, the nearer the sum of individualities subordinate to all the given generalities is to the sum of those subordinate to the generality in question, the more exact the description is.

These three methods are all useful, but they have in common the weak point that all generalities mentioned here are, in fact, described by way of words. This shows the

fundamental defect of these methods; it is very difficult or impossible to find generalities which are of the same sort as the generality in question and whose concepts are the meanings of words, because generalities whose concepts are the meanings of words are those selected from an infinite number of generalities and, in addition, are not purely objective ones but partially "subjective" ones. (See §1-2.) We must therefore propose another method that can describe the generality whose concept is the meaning of the word in question more exactly.

This method is to enumerate all the characteristics that show the generality in question to be itself and distinguish it from the other generalities. The third method mentioned above is, in fact, a simplified version of this method, because each of the superior generalities given is shown to be itself and distinguished from the others by characteristics which are all included in those concerning the generality in question. Consequently, to enumerate the superior generalities means, in fact, to describe, though in a somewhat rough way, the characteristics concerning the generality in question.

In the case of the fourth method, the description can be said to be correct when it enumerates all and only the characteristics that show the generality in question to be itself and distinguish it from the others. Even when it enumerates all the characteristics concerning the generality in question, it cannot be said to be correct if it includes any characteristics which belong to some and not all individualities subordinate to the generality. Naturally, there must be a statement of the category to which the word belongs and one concerning the way in which the generality is "subjective." (See §2-4 and §1-2.)

### § 3-2

The reader should notice that all four methods presuppose knowledge concerning the meanings of the words used in the description. In this very respect, it is often asserted that the description of meaning is in the final analysis a "circular argument." If we have described the meaning of the word  $A_1$  using words  $A_2, A_3, \dots A_i$ , then we must describe the meaning of each of  $A_2, \dots A_i$  using other words, and in the end the word  $A_1$  is among the words used in the description. Or, to put it differently, the description of the meaning of a word requires an infinite number of words, and we can never finish it.

To simplify the discussion, let us confine ourselves to the problem of the description of our native language. We must take into account the following facts in order to keep ourselves from adopting the erroneous idea mentioned above.

First, the study of meaning is essentially not a task which starts from zero. Its aim is to make clearer and more accurate what we know vaguely about meaning. Meaning exists as a concept in our consciousness, so that we know at least something about meaning from the beginning.

Second, meaning is a concept corresponding to a generality (or an individuality) which as a rule exists in the real world, so it is quite natural that, in studying meaning,

we must rely upon our knowledge of the real world and its concepts.

For these two reasons, we can conclude that the above-mentioned methods of description of meaning are scientifically efficient ones, i.e., they are not essentially "circular arguments."

### § 3-3

Now, let us consider a very important problem which is often posed, namely, the problem of one or more than one word. This arises when one and the same phonological shape corresponds to apparently different meanings. The reason why this problem is so important for the study of meaning is that, since meaning is a concept corresponding to a generality (or an individuality), whether the phonological shape is associated with one concept (one word) or with more than one concept (homonyms) is crucial to the description of meaning. If we mistake two words for one where one and the same phonological shape is separately associated with two different meanings (=concepts), the result will be fundamentally wrong. The same is true if we mistake one and the same word for two.

But, more important than the problem of actual description is the fact that the endeavor to decide whether we are dealing with one word or more than one word is necessitated by the above-mentioned essentials of meaning and that, if we neglect such a necessity, we must remain at a stage where the sphere of meaning is slippery, vague and complicated.

Let us suppose that a given phonological shape seems to be associated with different meanings. First, we must make clear what such a difference essentially is. In this respect, we can distinguish two essentially different cases. One is where the phonological shape is associated with two concepts different from each other. This is the case of homonymy. The other is the case where we mistake unconsciously as meanings associated with that phonological shape some concepts of generalities which are inferior to the generality whose concept is the meaning associated with that phonological shape. This often occurs especially in the case of, e.g., the Japanese postpositions and the English prepositions, where, as mentioned above, a rather limited number of words are used to express a part of the real world. This is because those words must correspond to generalities very high in grade, and we tend to make a mistake. Of course, this mistake occurs in regard to other sorts of words also.

The main point of the problem of one or more than one word is to distinguish these two essentially different cases, and to make clear which of these two cases is involved each time we meet such a state of affairs.

Now, what are the criteria for distinguishing these two cases?

First, we can conclude that the phonological shape in question corresponds to two meanings and that we have two different words, when among things or movements, etc., indicated by that phonological shape are included those which have no common character, or when, although there are some characters common to all of them and

we can suppose a generality, this generality is included not only in those things or movements, etc., but also in some other things or movements, etc., that are not indicated by the phonological shape in question. This criterion is quite natural from the viewpoint of the essence of meaning, because meaning is a concept corresponding to one generality. Thus, in this case we have two or more homonymous words.

But we cannot say that even that which does not conform to the first criterion is one and the same word, because, even if we can assume a generality which is included in all and only the things or movements, etc., indicated by the phonological shape in question, it only means that the concept of this generality may be the meaning of a word, and it may be that the concepts of two or more generalities inferior to the above-mentioned generality correspond as meanings to one and the same phonological shape.

Second, we can conclude that the phonological shape corresponds to one generality if we can assume a general character common to all things or movements, etc., indicated by the phonological shape and if the characters of these are, although they differ from one another, such that their characters form a continuum from one pole to the other without any distinct division. This is a result of the fact that a generality whose concept is the meaning of one word is a sort and a grade of generality which shows itself through its own character, and consequently, if two meanings are independent, they must correspond to two generalities distinct from each other.

From the viewpoint of the practical study of meaning, this makes possible the following methods.

- (1) If it seems that a given phonological shape may correspond to two generalities A and B having some characters in common, we can try to find things or movements, etc., which are indicated by it and which are located in the middle of a hypothetical line from one generality to the other. If we can find such things or movements, etc., the possibility that A and B are inferior to another generality whose concept is the meaning of this phonological shape becomes stronger. We can then continue this operation until we can judge that there is no distinct division. If we can, we can say that this phonological shape corresponds to one generality, or, in other words, that we are dealing with one word.
- (2) If in the course of this operation, we can judge that the things or movements, etc., we have found in the middle of two generalities can be taken to be subordinate to both the two generalities, we can at least say that these two generalities are irrelevant to the meaning of the phonological shape in question.
- (3) If we cannot find things or movements, etc., which stand in the middle of a line from one generality to the other, we must consider whether such things or movements, etc., exist at all in the real world. If they exist in the real world and are not indicated by that phonological shape, we can conclude that that phonological shape corresponds to two different generalities. If they do not exist in the real world, there remains the possibility that that phonological shape corresponds to one generality.

At present, there is no theoretically perfect method to distinguish one word and homonymity, but it must be that, in the majority of cases, we can distinguish them, because, if a phonological shape corresponds to two (or more) generalities, they must be distinctly different, and if not, it must be far from the situation where we can find any distinct difference.

What is necessary is to study as many cases as possible using these criteria and to extract more exact criteria in the course of such study.

### § 3-4

Finally, let us consider some practical methods of describing meaning.

As far as meaning is a concept which is the reflection of a sort and a grade of generality or an individuality, what we have to do is, above all, to make clear what sort of things or movements, etc., are indicated by the word in question. In this respect, the most elementary method is to make use of the investigator's own introspection when he studies the meanings of his native language and of the informant's report by way of translation or pointing at things or movements, etc., indicated by the word when the investigator studies a foreign language. This method, though we must make use of it, does not by itself guarantee any correct result. We must realize that this method has limits in making clear the actual situation, because it makes use only of a person's consciousness. But any introspection or report which is not correct involves a little truth in some sense at least. This can be said in general, and it must be emphasized especially in the case of linguistic introspection or report because, as mentioned above, meaning exists also in the consciousness of a person.

The second method is to make use of the function of the word, that is, to study how the word is used. This is a great help to the study of what sort of things or movements, etc., are indicated by the word, and consequently to the study of meaning. In §2-2, we saw that the determination of function by meaning is very strict. This fact indicates that we can make use of the study of function in describing meaning and this is very important, for, if this determination is very strict, it means that to make guesses about meaning by studying function is very useful. By this method we can find out in what cases the word in question can be used, namely, what sort of things or movements, etc., can be indicated by the word.

It should be pointed out that it is obvious that we cannot list all the functions of the word in question, so it becomes necessary to list a fairly small number of cases which are the most typical from the viewpoint of the description of meaning. This operation requires great skill on the part of the investigator, but a relatively easy way is to use the results of the method mentioned first. We can at least discover useful approximations in the course of applying the first method. If we pay attention to the cases where a word cannot be used even though it might be supposed from the hypotheses set up by means of the first method that it could be used, and to the cases where it can be used but which we have left unnoticed in the previous operation, we can make clearer what

sort of things or movements, etc., are indicated by the word in question. As suggested here, it is important to list cases where the word cannot be used as well as cases where it can be used.

There are cases where it is insufficient to study the contexts in which the word in question can be used without paying attention to the actual situation in which it is used, so we must, in such cases, complement this operation by the study of the situation. This is a natural result of the fact that meaning exists as a generality of indications (see §1-1). Here we are studying essentially an individuality or a lower-grade generality of indication. It can be understood easily that such an operation as this makes for more strict and detailed description of what sort of things or movements, etc., are indicated by the word in question.

Moreover, it is useful to compare the word in question with a word which is said to resemble it in meaning. In doing so, we can make clearer what sort of things or movements, etc., are indicated by the word in question and what are not.

Making use of all the above-mentioned methods, we must carry out in conclusion the following two operations.

- (1) A judgment as to how many concepts the phonological shape corresponds to, i.e., a judgement of how many words are there. (See §3-3.)
- (2) A description of the generality which is included in all and only the things or movements, etc., corresponding to each of these words.

\*                      \*                      \*

It is very difficult in the present state of linguistics to study meaning, but if we endeavor to study it, making use of all methods we can consider useful, we should be able to make great progress in the study of meaning. This progress will constitute a great contribution not only to linguistics in general but also to the study of man's thought and consciousness, and, in addition, to philosophy and several other sciences.

UNIVERSITY OF TOKYO, JAPAN